Creating childcare environments supportive of child obesity prevention

Jannah Zoe Jones

Bachelor of Nutrition and Dietetics

Submitted for the Degree of Doctor of Philosophy

School of Medicine and Public Health
Faculty of Health and Medicine
The University of Newcastle, Australia

December 2016

STATEMENT OF ORIGINALITY

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university of other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University's Digital Repository, subject to the provisions of the Copyright Act 1968. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

THESIS BY PUBLICATION

I hereby certify that this thesis is submitted in the form of a series of published papers of which I am a joint author. I have included as part of the thesis a written statement from each co-author, endorsed by the Faculty Assistant Dean Research Training, attesting to my contribution to the joint publications. The University of Newcastle Thesis by Publication Guidelines are included in Appendix 1.1.

COPYRIGHT PERMISSION

I warrant that I have obtained, where necessary, permission from the copyright owners to use any of my own published work (i.e. journal publications) in which the copyright is held by another party.

Name: Jannah Zoe Jones

Signature:

Date: 18.12.2016

SUPERVISORS

Associate Professor Luke Wolfenden

Hunter New England Population Health

Faculty of Health and Medicine

School of Medicine and Public Health

University of Newcastle, Australia

Dr Rebecca Wyse

Hunter New England Population Health

Faculty of Health and Medicine

School of Medicine and Public Health

University of Newcastle, Australia

Dr Sze Lin Yoong

Hunter New England Population Health

Faculty of Health and Medicine

School of Medicine and Public Health

University of Newcastle, Australia

ACKNOWLEDGEMENTS

I am so grateful for the many people that have guided, supported and encouraged me throughout this PhD journey.

Firstly to my supervisors, Associate Professor Luke Wolfenden, Dr Rebecca Wyse and Dr Serene Yoong. Thank you for your ongoing guidance and support, I am so grateful to have been mentored by three amazing supervisors. Thank you for your enthusiasm, patience, wisdom and advice, for keeping me motivated and focused, and for investing so much time and energy into developing my skills and confidence. I am inspired by each of you and consider it a privilege to have worked so closely with you over the last few years. Thank you.

A big thank you to the incredible Early Childhood Education and Care team both past and present, in particular Meghan Finch, Nicole Pond, Maryann Falkiner, Tracey Findlay, Josephine Marshall, Rebecca Thomson and Paula Bridge. Thank you for your enthusiasm and commitment to the project, I am so proud of our achievements and feel really lucky to work with such a wonderful group of people (TOPIiC rocks!). Thank you also to my colleagues at Hunter New England Population Health who have contributed to this PhD journey in many ways. To the project advisory group, thank you for your support and expert guidance throughout all stages of the project. To my fellow PhD students, I am so grateful for your encouragement, wisdom and advice shared, it has been a privilege to be on this journey with you. To Christophe

Lecathelinais, I could not have gotten to this point without your statistical support, thank you for being so patient and making statistics fun. To Debs Mainey for formatting this document so beautifully, and Karen Gillham for providing all the necessary infrastructure and resources to support the project, thank you.

To my amazing family and friends, thank you for your ongoing love and support, for continuing to ask me how it's going, and for cheering me on from both near and far. To Meghan Finch, thank you for being there each step of the way, I can't thank you enough for your constant support and friendship (and special congratulations on your own submission!).

To my Mum and Dad, thank you for your unwavering love, support and belief in me, and for encouraging me to embrace life's opportunities and challenges. Thank you for always being there, for sharing in my achievements and encouraging me to persevere through the hard times. I can't tell you how much this has meant to me.

Finally, to my husband Adam, my biggest supporter and my rock. Thank you for being so patient and understanding, for supporting me, motivating me and believing in me throughout this PhD journey. Thank you for celebrating the highs with me and helping me through the lows. Thank you for making me laugh and keeping me from going completely crazy. I can't tell you how much I appreciate everything you have done to help get me to this point. I could not have done this without you. I love you very much and am excited for our future post-PhD adventures together.

CONFLICT OF INTEREST STATEMENT

Jannah Zoe Jones reports no conflict of interest.

LIST OF PUBLICATIONS FROM THESIS CHAPTERS

This thesis is presented as a series of five publications. At the time of submission, all of these papers were published or accepted for publication in peer reviewed journals.

Published or accepted for publication in peer-reviewed journals

Chapter 2

Jones J, Wyse R, Wiggers J, Yoong SL, Finch M, Lecathelinais C, Fielding A, Clinton-McHarg T, Hollis J, Seward K, Wolfenden L. Dietary intake and physical activity levels of children attending Australian childcare services. *Nutrition and Dietetics.* 2017: doi: 10.1111/1747-0080.12375

Chapter 3

Wolfenden L, **Jones J**, Williams CM, Finch M, Wyse RJ, Kingsland M, Tzelepis F, Wiggers J, Williams AJ, Seward K, Small T, Welch V, Booth D, Yoong SL. Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services. *Cochrane Database of Systematic Reviews*. 2016; Issue 9. Art. No: CD011779. doi: 10.1002/14651858.CD011779.pub2

Chapter 4

Jones J, Wolfenden L, Wyse R, Finch M, Yoong SL, Dodds P, Pond N, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and

practices in childcare services. *BMJ Open*. 2014;4:e005312.

Chapter 5

Jones J, Wyse R, Finch M, Lecathelinais C, Wiggers J, Marshall J, Falkiner M, Pond N, Yoong SL, Hollis J, Fielding A, Dodds P, Clinton-McHarg T, Freund M, McElduff P, Gillham K, Wolfenden L. Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial. *Implementation Science.* 2015;10:147.

Chapter 6

Jones J, Yoong SL, Wyse R, Ward DS, Wolfenden L. Improving the impact of obesity prevention interventions in the childcare setting: the need for a systematic application of implementation science. *Journal of Paediatrics and Child Health*. Accepted 27.11.16.

CO-AUTHOR CONTRIBUTION STATEMENT FOR CHAPTER 2

I attest that Research Higher Degree candidate Jannah Jones contributed to the paper/publication entitled:

Dietary intake and physical activity levels of children attending Australian childcare services

in the following ways:

- Contributing to the development of the research question
- Contributing to the research design and study methodology
- Determining the measures to be used
- Developing data collection tools
- Overseeing service recruitment
- Overseeing data collection and data entry
- Cleaning and analysing the data
- Leading the writing of the manuscript

Full name of co-author	Signature of co-author	Date
Rebecca Wyse		01.11.2016
John Wiggers		02.11.2016
Sze Lin Yoong		01.11.2016

Meghan Finch	01.11.2016
Christophe Lecathelinais	04.11.2016
Alison Fielding	29.11.2016
Tara Clinton-McHarg	02.11.2016
Jenna Hollis	31.10.2016
Kirsty Seward	31.10.2016
Luke Wolfenden	01.11.2016

09.12.2016

Professor Robert Callister **Date**

Assistant Dean Research Training

Faculty of Health and Medicine

The University of Newcastle

CO-AUTHOR CONTRIBUTION STATEMENT FOR CHAPTER 3

I attest that Research Higher Degree candidate Jannah Jones contributed to the paper/publication entitled:

Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services

in the following ways:

- Screening abstracts and titles
- Assessing full text articles for eligibility
- Piloting the data extraction form
- Data extraction
- Rating the overall quality of evidence using the GRADE system
- Contributing to the narrative synthesis and interpretation
- Co-leading the writing of the manuscript

Full name of co-author	Signature of co-author	Date
Luke Wolfenden		01.11.2016
Christopher Williams		31.10.2016
Meghan Finch		01.11.2016

Rebecca Wyse	01.11.2016
Melanie Kingsland	01.11.2016
Flora Tzelepis	01.11.2016
John Wiggers	02.11.2016
Amanda Williams	01.11.2016
Kirsty Seward	31.10.2016
Tameka Small	01.11.2016
Vivian Welch	01.11.2016
Debbie Booth	01.11.2016
Sze Lin Yoong	01.11.2016

09.12.2016

Professor Robert Callister **Date**

Assistant Dean Research Training

Faculty of Health and Medicine

The University of Newcastle

CO-AUTHOR CONTRIBUTION STATEMENT FOR CHAPTER 4

I attest that Research Higher Degree candidate Jannah Jones contributed to the paper/publication entitled:

A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services (study protocol)

in the following ways:

- Contributing to the development of the research question
- Contributing to the research design and study methodology
- Determining the measures to be used
- Leading the writing of the manuscript

Full name of co-author	Signature of co-author	Date
Luke Wolfenden		01.11.2016
Rebecca Wyse		01.11.2016
Meghan Finch		01.11.2016
Sze Lin Yoong		01.11.2016
Pennie Dodds		18.11.2016

Nicole Pond	01.11.2016
Karen Gillham	01.11.2016
Megan Freund	01.11.2016
Patrick McElduff	17.11.2016
Paula Wye	17.11.2016
John Wiggers	02.11.2016

09.12.2016

Professor Robert Callister **Date**

Assistant Dean Research Training

Faculty of Health and Medicine

The University of Newcastle

CO-AUTHOR CONTRIBUTION STATEMENT FOR CHAPTER 5

I attest that Research Higher Degree candidate Jannah Jones contributed to the paper/publication entitled:

Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial

in the following ways:

- Contributing to the development of the research question
- Contributing to the research design and study methodology
- Overseeing the development of intervention resources
- Determining the measures to be used
- Developing data collection tools
- Overseeing service recruitment
- Overseeing the delivery of the intervention
- Overseeing data collection and data entry
- Cleaning and analysing the data
- Leading the writing of the manuscript

Full name of co-author	Signature of co-author	Date
Rebecca Wyse		01.11.2016
Meghan Finch		01.11.2016
Christophe Lecathelinais		04.11.2016
John Wiggers		02.11.2016
Josephine Marshall		01.11.2016
Maryann Falkiner		02.11.2016
Nicole Pond		01.11.2016
Sze Lin Yoong		01.11.2016
Jenna Hollis		31.10.2016
Alison Fielding		29.11.2016
Pennie Dodds		18.11.2016
Tara Clinton-McHarg		02.11.2016
Megan Freund		01.11.2016
Patrick McElduff		17.11.2016

Karen Gillham	01.11.2016
Luke Wolfenden	01.11.2016

09.12.2016

Professor Robert Callister **Date**

Assistant Dean Research Training

Faculty of Health and Medicine

The University of Newcastle

CO-AUTHOR CONTRIBUTION STATEMENT FOR CHAPTER 6

I attest that Research Higher Degree candidate Jannah Jones contributed to the paper/publication entitled:

Improving the impact of obesity prevention interventions in the childcare setting: the need for a systematic application of implementation science

in the following ways:

- Developing the manuscript structure and key discussion points
- Leading the writing of the manuscript

Full name of co-author	Signature of co-author	Date
Sze Lin Yoong		01.11.2016
Rebecca Wyse		01.11.2016
Dianne Stanton Ward		01.11.2016
Luke Wolfenden		01.11.2016

09.12.2016

Professor Robert Callister **Date**

Assistant Dean Research Training

Faculty of Health and Medicine

The University of Newcastle

ADDITIONAL PEER-REVIEWED PUBLICATIONS RELATED TO THE THESIS

1. Wolfenden L, Wiggers J, Morgan P, Razak LA, **Jones J**, Finch M, Sutherland R, Lecathelinais C, Gillham K, Yoong SL. A randomised controlled trial of multiple periods of outdoor free-play to increase moderate-to-vigorous physical activity among 3 to 6 year old children attending childcare: study protocol. *BMC Public Health*. 2016;16(1):926. DOI: 10.1186/s12889-016-3604-x

2. Yoong SL, **Jones J**, Marshall J, Wiggers J, Seward K, Finch M, Fielding A, Wolfenden L. A theory-based evaluation of a dissemination intervention to improve childcare cooks' intentions to implement nutrition guidelines on their menus. *Implementation Science.* 2016;11(1):105. DOI: 10.1186/s13012-016-0474-7

3. Seward K, Yoong SL, Finch M, Wiggers J, Wyse RJ, **Jones J**, Gillham K, Wolfenden L. A multi-strategy childcare-based intervention to improve compliance with nutrition guidelines versus usual care in long day care services: randomised controlled trial (study protocol). *BMJ Open.* 2016;6(6):e010786.

4. Yoong SL, Finch M, Nathan N, Lecathelinais C, Dodds P, **Jones J**, Wiggers J, Wolfenden L. A longitudinal study assessing childcare services' adoption of obesity prevention policies and practices. *Journal of Paediatrics and Child Health.* 2016;52(7):765-70. DOI: 10.1111/jpc.13252

5. Finch M, **Jones J**, Yoong SL, Wiggers J, Wolfenden L. Effectiveness of centre-based childcare interventions in increasing child physical activity: a systematic review and meta-analysis for policy makers and practitioners. *Obesity Reviews.* 2016;17(5):412-28. DOI: 10.1111/obr.12392

6. Wolfenden L, Finch M, Nathan N, Weaver N, Wiggers J, Yoong SL, **Jones J**, Dodds P, Wyse R, Sutherland R, Gillham K. Factors associated with early childhood education and care service implementation of healthy eating and physical activity policies and practices in Australia: a cross-sectional study. *Translational Behavioral Medicine: Practice, Policy and Research*. 2015;5(3):327-34. DOI: 10.1007/s13142-015-0319-y.

7. Finch M, Yoong SL, Thomson RJ, Seward K, Cooney M, **Jones J**, Fielding A, Wiggers J, Gillham K, Wolfenden L. A cluster randomised controlled trial of an implementation intervention to increase healthy eating and physical activity promoting policies and practices in centre based childcare services: Study protocol. *BMJ Open.* 2015;5:e006706. DOI: 10.1136/bmjopen-2014-006706.

8. Yoong SL, Wolfenden L, Williams C, Finch M, Wyse R, **Jones J**, Freund M, Nathan N, Dodds P, Wiggers J. A cross sectional study assessing childcare services preferences and associates of intentions to use a web-based program to implement healthy eating and physical activity policies and practices. *Journal of Medical Internet Research.* 2015;17(5):e108.

9. Bell AC, Finch M, Wolfenden L, Fitzgerald M, Morgan P, **Jones J**, Freund M, Wiggers J. Young children's physical activity and associations with modifiable characteristics of the childcare environment*. Australian and New Zealand Journal of Public Health.* 2015;online. DOI: 10.1111/1753-6405.12314.

10. Yoong SL, Skelton E, **Jones J**, Wolfenden L. Do childcare services provide foods in line with the 2013 Australian Dietary Guidelines? A cross-sectional study. *Australian and New Zealand Journal of Public Health.* 2014;38(6):595-6.

11. Dodds P, Wyse R, **Jones J**, Wolfenden L, Lecathelinais C, Williams A, Yoong S, Finch M, Nathan N, Gillham K, Wiggers J. Validity of a measure to assess healthy eating and physical activity policies and practices in an Australian child care setting. *BMC Public Health.* 2014;14(1):572.

12. Finch M, Wolfenden L, Morgan PJ, Freund M, **Jones J**, Wiggers J. A cluster randomised trial of a multi-component intervention delivered by service staff to increase physical activity of children attending centre based childcare. *Preventive Medicine*. 2014;58:9-16.

REPORTS RELATED TO THE THESIS

1. Wolfenden L, Finch M, Davies L, Bell C, Sutherland R, Pond N, Falkiner M, **Jones J**, Gillham K, Wiggers J. NSW Ministry of Health. Good for Kids. Good for Life: Evaluation Report 2006-2010. Section 7: Children's services. NSW Ministry of Health, Sydney, Australia, 2013.

CONFERENCE PRESENTATIONS RELATED TO THE THESIS

1. **Jones J**, Wyse R, Finch M, Lecathelinais C, Wiggers J, Falkiner M, Pond N, Yoong SL, Marshall J, Fielding A, Dodds P, Clinton-McHarg T, Freund M, McElduff P, Gillham K, Wolfenden L. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services: a randomised controlled trial. *International Congress of Behavioral Medicine*. 7-9 December 2016, Melbourne.

2. Finch M, **Jones J**, Yoong SL, Wiggers J, Wolfenden L. Improving child physical activity through centre-based childcare interventions: results from a meta-analysis of outcome effects for intervention characteristics. *International Congress of Behavioral Medicine*. 7-9 December 2016, Melbourne.

3. Seward K, Wolfenden L, Finch M, Wiggers J, Wyse R, **Jones J**, Gillham K, Yoong SL. An intervention to improve nutrition guideline compliance in childcare. *3rd Biennial Australasian Implementation Conference*. 5-6 October 2016, Melbourne.

4. Finch M, Yoong SL, **Jones J**, Wolfenden L, Wiggers J. Effectiveness of childcare physical activity interventions: Systematic review. *3rd Biennial Australasian Implementation Conference*. 5-6 October 2016, Melbourne.

5. Yoong SL, Finch M, Wiggers J, Guerra P, **Jones J**, Nathan N, Sutherland R, Wolfenden L. How effective are childcare-centre and school-based physical activity interventions when delivered under real-world conditions? *Australasian Cochrane Symposium*. 25-26 November 2015, Melbourne.

6. Wolfenden L, **Jones J**, Wyse R, Finch M, Yoong SL, Dodds P, Pond N, Falkiner M, Marshall J, Gillham K, Freund M, McElduff P, Wye P, Thomson R, Seward K, Wiggers J. Improving implementation of evidence-based obesity prevention policies and practice in childcare services: findings from a series of RCTs conducted by the Hunter New England Population Health Research Group. *4th Annual NHMRC Research Translation Faculty Symposium*. 27-28 October 2015, Sydney.

7. Finch M, Yoong SL, **Jones J**, Wolfenden L, Wiggers J. A systematic review of physical activity interventions in centre-based childcare: Meta-analyses of outcome effects for pragmatic and explanatory study designs. *Population Health Congress*. 7-9 September 2015, Hobart.

8. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Dodds P, Pond N, Falkiner M, Marshall J, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services: a randomised controlled trial. *Population Health Congress*. 7-9 September 2015, Hobart.

9. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Dodds P, Pond N, Falkiner M, Marshall J, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services: a randomised controlled trial. *Global Implementation Conference*. 26-28 May 2015, Dublin.

10. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Dodds P, Pond N, Falkiner M, Marshall J, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services. *3rd Annual NHMRC Research Translation Faculty Symposium.* 12-13 November 2014, Melbourne.

11. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Dodds P, Pond N, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services. *2nd Biennial Australian Implementation Conference*. 17-18 September 2014, Sydney.

12. Dodds P, Wyse R, **Jones J**, Wolfenden L, Lecathelinais C, Williams A, Yoong S, Finch M, Nathan N, Gillham K, Wiggers J. Validity of a measure to assess the healthy eating and physical activity policies and practices of Australian childcare services. *2nd Biennial Australian Implementation Conference*. 17-18 September 2014, Sydney.

13. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Dodds P, Pond N, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. An intervention to facilitate the implementation of obesity prevention policies and practices in childcare services. *Public Health Association of Australia 43rd Annual Conference*. 15-17 September 2014, Perth.

14. **Jones J**, Wolfenden L, Wyse R, Finch M, Yoong S, Gibbins P, Thomson R, Wiggers J, Gillham K. Prevalence of healthy eating and physical activity policies and practices at childcare. *Public Health Association of Australia 42nd Annual Conference*. 16-18 September 2013, Melbourne.

15. Finch M, Morgan PJ, Freund M, Wiggers J, **Jones J**, Wolfenden L. A cluster randomised trial of an intervention implemented by childcare staff to increase physical activity of children attending centre based childcare. *Australian Health Promotion Association 21st National Conference*. 17-19 June 2013, Sydney.

16. **Jones J**, Bell AC, Finch M, Wolfenden L, Fitzgerald M, Morgan PJ, Freund M, Wiggers J. Predictors of preschool age children's physical activity while attending long day care. *Australasian Society for Behavioural Health and Medicine 10th Annual Scientific Conference*. 6-8 February 2013, Newcastle.

17. Finch M, Morgan PJ, Freund M, Wiggers J, **Jones J**, Wolfenden L. A cluster randomised trial of an intervention implemented by childcare staff to increase physical activity of children attending centre based childcare. *Australasian Society for Behavioural Health and Medicine 10th Annual Scientific Conference.* 6-8 February 2013, Newcastle.

18. **Jones J**, Bell AC, Finch M, Wolfenden L, Fitzgerald M, Morgan PJ, Freund M, Wiggers J. Predictors of preschool age children's physical activity while attending long day care. *NSW Health Promotion Symposium*. 15-16 November 2012, Sydney.

19. Finch M, Bell AC, Wolfenden L, Fitzgerald M, Morgan PJ, **Jones J**, Freund M, Wiggers J. Characteristics of long day care services associated with preschool age children's physical activity during care. *Be Active 2012 - International Congress on Physical Activity and Public Health*. 31 October - 3 November 2012, Sydney.

TABLE OF CONTENTS

CHAPTER 4: A RANDOMISED CONTROLLED TRIAL OF AN INTERVENTION TO FACILITATE THE IMPLEMENTATION OF HEALTHY EATING AND PHYSICAL ACTIVITY POLICIES AND PRACTICES IN CHILDCARE SERVICES (STUDY PROTOCOL)

CHAPTER 5: EFFECTIVENESS OF AN INTERVENTION TO FACILITATE THE IMPLEMENTATION OF HEALTHY EATING AND PHYSICAL ACTIVITY POLICIES AND PRACTICES IN CHILDCARE SERVICES: A RANDOMISED CONTROLLED TRIAL

LIST OF TABLES

CHAPTER 4: A RANDOMISED CONTROLLED TRIAL OF AN INTERVENTION TO FACILITATE THE IMPLEMENTATION OF HEALTHY EATING AND PHYSICAL ACTIVITY POLICIES AND PRACTICES IN CHILDCARE SERVICES (STUDY PROTOCOL)

CHAPTER 5: EFFECTIVENESS OF AN INTERVENTION TO FACILITATE THE IMPLEMENTATION OF HEALTHY EATING AND PHYSICAL ACTIVITY POLICIES AND PRACTICES IN CHILDCARE SERVICES: A RANDOMISED CONTROLLED TRIAL

LIST OF FIGURES

LIST OF APPENDICES

GLOSSARY OF COMMON ABBREVIATIONS

BMI	Body mass index
CATI	Computer assisted telephone interview
CI	Confidence interval
DALYs	Disability-adjusted life years
EPAO	Environment and Policy Assessment and Observation
EPOC	Effective Practice and Organisation of Care
GEE	Generalised estimating equation
GRADE	Grades of Recommendation, Assessment, Development and Evaluation
ICC	Intra class correlation
INFORMAS	International Network for Food and Obesity/non-communicable Diseases Research, Monitoring and Action Support
MD	Mean difference
NAP SACC	Nutrition and Physical Activity Self-Assessment for Child Care
PHIMS	Population Health Intervention Management System
SD	Standard deviation
SOPLAY	System for Observing Play and Leisure in Youth
UK	United Kingdom
US	United States

SYNOPSIS

The high prevalence, substantial disease burden and financial costs associated with childhood overweight and obesity makes it a significant public health challenge. Despite the considerable importance of the development of healthy nutrition and physical activity behaviours in early childhood, few children aged zero to five years adhere to public health guideline recommendations for dietary intake and physical activity. Centre-based childcare services, such as preschools and long day care services, represent a valuable setting to support obesity prevention as such services can implement a range of evidence-based healthy eating, physical activity and obesity prevention policies, practices and programmes. However, the current implementation of such policies and practices by childcare services is sub-optimal.

This thesis aimed to:

- Describe the dietary intake and physical activity levels of children attending Australian childcare services
- Systematically review and synthesise current evidence for the effectiveness of strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes within childcare services
- Develop and evaluate the effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services

- Discuss the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting
- Discuss implications for future policy, practice and research

To address the first thesis aim, a cross-sectional study was conducted with 18 centre-based childcare services in the Hunter region of New South Wales, Australia. A random sample of children aged 3 to 5 years was selected and their dietary intake and physical activity levels were assessed during a one-day observation using validated tools. The study found that while attending childcare, children consumed a mean of 0.2 serves of vegetables, 0.7 serves of fruit, 1.4 serves of grain (cereal) foods, 0.1 serves of lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans, 0.6 serves of milk, yoghurt, cheese and alternatives, and 0.7 serves of discretionary foods. In regards to physical activity levels, 48.6% of all child counts were classified as 'sedentary', and 22.3% classified as 'very active'. The findings indicated that there is considerable scope to improve the diet and activity behaviours of children during their attendance at childcare.

To address the second thesis aim, a systematic review was undertaken to examine the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes by childcare services that promote child healthy eating, physical activity and/or obesity prevention. Ten eligible trials were included in the review. None of the interventions reviewed improved the implementation of all targeted policies and practices relative to a comparison group. Current research

provides weak and inconsistent evidence of the effectiveness of strategies to improve the implementation of such policies and practices.

To address the third thesis aim, a randomised controlled trial was conducted to evaluate the effectiveness of an intervention to increase the implementation of healthy eating and physical activity policies and practices in a sample of 128 centre-based childcare services in the Hunter region of New South Wales, Australia. Intervention strategies included the provision of implementation support staff, securing executive support, staff training, consensus processes, academic detailing visits, tools and resources, performance monitoring and feedback and a communications strategy. The primary outcome of the trial was the proportion of services implementing all seven healthy eating and physical activity policies and practices targeted by the intervention. Outcome data were collected via telephone surveys with service nominated supervisors and room leaders. There was no significant difference between groups for the primary trial outcome ($p=0.44$). Relative to the control group, a significantly larger proportion of intervention group services reported having a written nutrition and physical activity policy ($p=0.05$) and providing adult-guided activities to develop children's fundamental movement skills ($p=0.01$). There are several factors that may have limited intervention effectiveness with respect to the primary trial outcome. High implementation rates for a number of targeted policies and practices at baseline, significant obesity prevention activity in the study region in the 12 months prior to, and during the 12-month intervention, and increases in implementation in control group services, may, in part, explain the non-significant trial

findings. Nonetheless, the study represents an important contribution to the limited literature regarding the implementation rates of obesity prevention interventions in the childcare setting.

To address the fourth thesis aim, a viewpoint paper was written to discuss the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting. The discussion included several recommendations for focus areas for future research efforts in the field. These include: the need for future research to better understand the barriers to the implementation of obesity prevention policies, practices and programmes and greater consideration of such barriers in the development of programme implementation strategies; improving the reporting of implementation strategies and processes in research trials; and the development and routine use of validated measures of theoretical constructs hypothesised to influence implementation.

The thesis concludes with a discussion of the implications of this research for future policy, practice and research. The implications for future policy and practice include the recommendation to establish systems to enable the routine monitoring and evaluation of childcare service implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes. The implications for future research include the need to investigate ways to improve the methodological rigor of trials to increase childcare service implementation of healthy eating, physical activity and obesity prevention policies and practices. The potential of childcare staff worksite

wellness interventions, parent and carer involvement, and alternate simple interventions to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes in childcare services is also discussed.

STATEMENT OF PERSONAL CONTRIBUTION

I was intricately involved in all aspects of the research undertaken as part of this thesis, including the planning, implementation, evaluation and dissemination of the primary trial reported in Chapters 4 and 5. A summary of the various contributions I made to the studies reported in this thesis is provided below.

Acquisition of funding

I was involved in the development of the nationally competitive grant application for the primary trial conducted as part of this thesis. The body that funded this study was the Australian Preventive Health Agency 2012-2014: $662,778 (reference 95WOL2011).

Study design and planning

I led the study design and planning for all research undertaken within this thesis. I undertook literature reviews, and developed intervention implementation strategies based on practice change evidence from clinical settings. I conducted stakeholder consultations, and conducted consultations with Aboriginal and Torres Strait Islander colleagues to ensure that the intervention delivered was culturally appropriate. I piloted the intervention materials and data collection tools with childcare service staff and representatives from the NSW Ministry of Health and childcare regulatory bodies. I also developed timelines, milestones and key performance indicators for the project and monitored progress against these. I led the application of a relevant evidence-

based theoretical framework (Damschroder's Consolidated Framework for Implementation Research) to the development and implementation of intervention strategies. I led the development of intervention delivery protocols and all intervention materials. I also led the development of an evaluation plan that included the evaluation of intervention objectives via the collection of outcome, impact and process data. I undertook sample size calculations to ensure the trial would be adequately powered.

Ethics approval and registering the trial

I was responsible for corresponding with the Hunter New England Local Health District Human Research Ethics Committee (reference 12/08/15/5.01) and the University of Newcastle Human Research Ethics Committee (reference H-2012-0321), including drafting applications, variations and addressing committee feedback. This involved developing a study proposal and justification, completing all ethics forms, designing study recruitment materials, developing information statements, consent forms and data collection tools. I was also responsible for registering the trial with the Australian New Zealand Clinical Trials Registry (reference ACTRN12612000927820).

Study measures

In consultation with my supervisors, I developed all measures used within the thesis. I was also intricately involved in the conduct of an additional study to establish the

validity of the measures used in the randomised controlled trial described in Chapters 4 and 5.

Data collection, entry, and management

I was responsible for planning and coordinating all data collection conducted for this thesis. This involved developing all training materials, data collection protocols and training computer assisted telephone interviewers (CATI) and research assistants. I oversaw all data collection processes and was responsible for data entry and management.

Intervention implementation

I had primary oversight for the delivery of intervention implementation strategies for the primary trial conducted as part of this thesis. This included the direct project management of six staff. I trained these staff in intervention delivery protocols and chaired fortnightly group supervision meetings where I provided constructive feedback regarding progress against key performance indicators and facilitated group discussions regarding problem solving, overcoming barriers to behaviour change, and standardising and ensuring high quality in the delivery of the intervention.

Data cleaning and analysis

I determined the methods of statistical analysis and led all data cleaning and analysis processes, in consultation with a statistician. I was responsible for the interpretation of results and the presentation of the data.

Systematic review

I was involved in all aspects of the systematic review described in Chapter 3 and oversaw the development of the search strategy, screening, data extraction and risk of bias assessment processes. I co-led the narrative synthesis of the review findings and the drafting of the manuscript.

Dissemination of thesis findings

During my candidature, I have co-authored 16 peer-reviewed publications related to the thesis, with a further 2 currently under review. The results of the research within this thesis have been presented at 2 international and 6 national conferences, and I have co-authored an additional 11 conference presentations related to the thesis. In 2016, I was awarded a travel grant by the University of Newcastle to travel to the University of North Carolina, US where I presented my thesis findings to a leading research group in the field of implementation science.

CHAPTER 1

Thesis introduction

CHAPTER OVERVIEW

This chapter provides an overview of the prevalence of overweight and obesity in adults and children, the disease burden related to overweight and obesity, and outlines the main modifiable causes of overweight and obesity. The chapter then focuses specifically on children aged 0 to 5 years, and describes international guidelines for dietary intake and physical activity and the prevalence of children meeting such recommendations. Childcare setting specific best practice guidelines for child healthy eating and physical activity are introduced and an overview of the rationale for utilising childcare services as a setting to support obesity prevention is presented. A summary of childcare service policies and practices that are associated with child diet, physical activity behaviours and/or weight status is outlined, together with current levels of childcare service implementation of such policies and practices. Finally, a brief overview of the current evidence regarding the effectiveness of strategies to support implementation of healthy eating, physical activity and obesity prevention policies and practices is presented. The chapter concludes with a description of the context in which the thesis was undertaken and presents the overall aims of this thesis.

PREVALENCE OF OVERWEIGHT AND OBESITY

Recent statistics from the World Health Organization estimate that internationally, greater than 1.9 billion adults are currently overweight or obese, placing them at increased risk of premature mortality and developing a range of chronic diseases, and in doing so contributing to the significant financial cost of this condition.[1] Globally, in 2014, 38% of males and 40% of females were overweight, an increase from 29% of males and 30% of females in 1980.[2] Further, 11% of males and 15% of females were obese, an increase from 5% of males and 8% of females in 1980.[2] In the US, the prevalence of obesity increased from 28% of men and 33% of women in 1999-2000 to 34% of men and 37% of women respectively in 2011-2012.[3] Similarly in England, the prevalence of obesity in adults increased from 15% in 1993 to 26% in 2014.[4] In high income countries, the prevalence of overweight is more than double that of low and lower-middle income countries and the prevalence of obesity is more than four times higher.[5]

In Australia, a recently conducted (2015) population-based survey indicated that approximately 11.2 million adults (aged 18 years and over) were overweight or obese with 35.5% of adults being overweight and 27.9% obese.[6] This represents an increase from 56% in 1995 to 61% in 2007-2008 and 63% in 2015.[6,7] From 2009 to 2019, it is predicted that the prevalence of overweight and obesity will continue to rise in Australia across all age groups to approximately 66% of the adult population.[8]

The worldwide prevalence of childhood overweight and obesity (among those aged under 18 years) is also high. Globally, in 2014, approximately 41 million children under the age of 5 years were overweight obese, 31 million of which were living in developing countries.[9,10] It is also estimated that 9% of all children aged between 0 and 5 years (approximately 60 million globally) are expected to be overweight or obese by the year 2020.[11] The prevalence of childhood overweight and obesity has increased in countries across the globe. For example, in the US, 14% of boys and girls were classified as overweight and obese in 1999-2000, compared to 19% of boys and 15% of girls in 2009-2010.[3]

In Australia, the prevalence of childhood overweight and obesity has doubled in recent decades. In 1985, 9% of boys and 11% of girls aged 7 to 15 years of age were overweight and 2% of boys and girls were obese.[12] Findings from the recently published 2014-15 National Health Survey involving 19,000 people across Australia indicated that 20% of children aged 5 to 17 years were overweight and 7% were obese.[6] There is currently no nationally representative data available specifically for Australian children aged 0 to 5 years.

DISEASE BURDEN RELATED TO OVERWEIGHT AND OBESITY

Morbidity and mortality

Overweight and obesity is a leading cause of morbidity in the general population. Evidence from systematic reviews indicates that overweight and obesity are associated

with an increased risk of a variety of preventable chronic diseases. These include cardiovascular disease and type 2 diabetes,[13,14] and some cancers including breast, colon, prostate, endometrial, kidney and pancreatic.[15] In 2012, the World Health Organization estimated that 35.8 million (2%) disability-adjusted life years were attributable to overweight and obesity globally.[16] Disability-adjusted life years (DALYs) represent a measure of the burden of disease across the population and account for years of life lost due to premature mortality and disability.[17]

The Global Burden of Disease Study regularly collects and analyses data regarding premature death and disability for more than 300 diseases and injuries in 188 countries, and synthesises the evidence for risk factor exposure and the attributable burden of disease.[18] The 2015 Global Burden of Diseases, Injuries, and Risk Factors Study reported that 3.96 million deaths were attributed to high body mass index in 2015, an increase of 20% from 3.31 million in 2005.[19] A further 120.13 million DALYs were attributable to high body mass index in 2015, an increase of 22% from 98.48 million in 2005.[19]

The most recent Australian Burden of Disease Study, conducted in 2011, indicated that high body mass was the risk factor contributing the second highest burden and was responsible for 6% of the total burden of disease in Australia.[20] Further, high body mass accounted for 21% of the burden of disease associated with cardiovascular disease, 49% associated with endocrine disorders, 28% associated with kidney disorders and 5% associated with cancer in the population.[20] Further, in Australia, it is

estimated that approximately 1.75 million deaths will be attributed to overweight and obesity in adults between 2011 and 2050 if current rates of overweight and obesity continue.[21] In addition, it is estimated that approximately 10.3 million years of life will be lost prematurely in Australian adults due to overweight and obesity in the same time period.[22]

Financial cost

In addition to the health consequences, overweight and obesity results in a significant financial cost and economic burden to society. In 2008, the medical cost of overweight and obesity in the US was estimated to be US$147 billion, an increase of approximately US$68 billion since 1998.[23] A 2011 systematic review that aimed to assess the direct costs associated with obesity, estimated obesity to account for between 0.7% and 2.8% of a country's total healthcare expenditure.[24]

In Australia, it has been estimated that in 2008 the overall cost of obesity to Australian society and governments was approximately AU$58.2 billion, with AU$8.3 billion of this representing the direct financial cost for the Australian community, including AU$2 billion in direct costs to the health system.[22] Both of such costs are predicted to further rise given the projected increase in the prevalence of overweight and obesity.[25]

CAUSES OF OVERWEIGHT AND OBESITY

There are many environmental, economic, social, psychological, cultural, genetic and behavioural factors that are suggested to influence the development of overweight and obesity.[26] Fundamental to the increase in prevalence of overweight and obesity is an imbalance between energy intake and energy expenditure.[1,27] The World Health Organization, supported by a large body of evidence has identified several modifiable risk factors including poor diet (such as high consumption of energy-dense nutrient-poor foods and low consumption of fruits and vegetables), low levels of physical activity and high levels of sedentary behaviours as central to this process.[28,29] Evidence from systematic reviews and large longitudinal studies indicates that overweight and obesity in childhood tracks into adulthood and is a strong predictor of adult obesity.[30-32] As such, the next section of the thesis introduction specifically focuses on guidelines for reducing risk factors for overweight and obesity in children.

RECOMMENDED DIETARY INTAKE AND PHYSICAL ACTIVITY FOR CHILDREN

Health departments and organisations across several high income countries have developed evidence-based public health guidelines for dietary intake and physical activity. Such guidelines have been developed based on the systematic identification and synthesis of the best available scientific evidence and provide key population-level recommendations in order to reduce the risk of the development of overweight and obesity and other chronic diseases and improve public health outcomes.[33] The early

childhood years (defined as 0 to 5 years of age) in particular have been recognised as a critical time period in the development and establishment of dietary intake and physical activity behaviours.[34,35] Countries including the US, UK, Canada and Australia have developed nutrition and physical activity guidelines and recommendations specific to young children aged 0 to 5 years.[33,36-43]

Guidelines for child dietary intake

National dietary guidelines for countries including the US, UK, Canada and Australia all provide recommendations for children that: encourage the consumption of core food groups, and the consumption of a variety of nutritious foods, and encourage limiting the intake of discretionary energy-dense, nutrient-poor foods, and choosing water to drink. These guidelines also present the recommended number of serves or quantities of core food groups (including grains, vegetables, fruit, dairy foods and meats and alternatives) for young children.

In the US, the 'MyPlate' food guidance system was released by the US Department of Agriculture in 2011 and provides healthy eating recommendations for consumption of grain foods, vegetables, fruit, dairy and protein foods.[36] Recommendations for children aged 2 to 5 years are provided according to age, gender and daily activity level. Boys and girls aged 4 to 5 years who are active for less than 30 minutes per day are recommended to consume 4 ounces of grains, 1.5 cups of vegetables, 1 cup of fruit, 2.5 cups of dairy and 3 ounces of protein foods.[44] Guidelines from the UK released by

Public Health England in 2016 indicate that children aged 2 to 5 years should consume foods in the proportions shown in the 'Eatwell Guide'.[37] These include consuming at least 5 portions of fruit and vegetables per day, basing meals on starchy carbohydrates such as potatoes, bread, rice, pasta and choosing wholegrain alternatives where possible, consuming some dairy or dairy alternatives, and some beans, pulses, fish, eggs, meat and other proteins.[37] Canada's Food Guide, revised by Health Canada in 2007 provides the specific numbers of serves recommended to be consumed for each food group per day.[38] Daily recommendations for children aged 2 to 3 years include 4 serves of fruit and vegetables, 3 serves of grain products, 1 serve of meat and alternatives, and 2 serves of milk and alternatives.[45] For children aged 4 to 8 years, daily recommendations include 5 serves of fruit and vegetables, 4 serves of grain products, 1 serve of meat and alternatives, and 2 serves of milk and alternatives.[45]

In Australia, the Australian Dietary Guidelines and Australian Guide to Healthy Eating were released by the National Health and Medical Research Council in 2013.[33] The five principal recommendations in the Australian Dietary Guidelines are as follows:

1. To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs
2. Enjoy a wide variety of nutritious foods from the five food groups every day
3. Limit intake of foods containing saturated fat, added salt, added sugars and alcohol
4. Encourage, support and promote breastfeeding
5. Care for your food; prepare and store it safely.[33]

The Australian Dietary Guidelines identify the specific numbers of serves recommended for each food group across different age groups. For children aged 2 to 3 years, daily recommendations include 1 serve of fruit, 2.5 serves of vegetables and legumes/beans, 4 serves of grains, 1 serve of lean meat and poultry, fish, eggs, nuts and seeds, and 1.5 serves of milk, yoghurt cheese and alternatives.[33] For children aged 4 to 8 years, daily recommendations include 1.5 serves of fruit, 4.5 serves of vegetables and legumes/beans, 4 serves of grains, 1.5 serves of lean meat and poultry, fish, eggs, nuts and seeds, and 1.5 to 2 serves of milk, yoghurt cheese and alternatives.[33]

Guidelines for child physical activity

Internationally, guidelines for countries including the US, UK, Canada and Australia recognise the importance of children engaging in a range of physical activity experiences, spread throughout the day.[43] US guidelines released in 2002 by the National Association for Sport and Physical Education (now known as SHAPE America and updated in 2009), provide a range of recommendations regarding physical activity for infants (birth to 12 months), toddlers (ages 12 to 36 months) and preschoolers (ages 3 to 5 years).[40] Specifically, the guidelines recommend that toddlers engage in at least 30 minutes of structured (organised) physical activity each day, while preschoolers should accumulate at least 60 minutes of structured physical activity each day.[40] Further, both toddlers and preschoolers should engage in at least 60 minutes (and up to several hours) of unstructured physical activity each day.[40] Guidelines from

the UK released by the UK Department of Health in 2011 recommend that children of preschool age should be physically active for at least 180 minutes each day, spread throughout the day.[42] Similarly, Canadian 24 hour movement guidelines published by the Canadian Society for Exercise Physiology in 2017 recommend that toddlers (ages 1 to 2 years) and preschoolers (ages 3 to 4 years) should accumulate at least 180 minutes of physical activity at any intensity spread throughout the day, with more being better.[41]

In Australia, physical activity and sedentary behaviour guidelines released by the Australian Department of Health in 2009 recommend that toddlers and preschoolers should be physically active every day for at least 180 minutes spread throughout the day.[39] Further, for healthy development in infants (birth to 1 year) it is recommended that physical activity (particularly supervised floor-based play in safe environments) should be encouraged from birth.[39] Infants, toddlers and preschoolers should not be sedentary, restrained, or kept inactive, for more than one hour at a time, with the exception of sleeping.[39]

CURRENT DIETARY INTAKE OF CHILDREN

Despite the considerable importance of the development of healthy nutrition and physical activity behaviours in early childhood, internationally few children aged 0 to 5 years adhere to guideline recommendations for these behaviours. The 2007-10 National Health and Nutrition Examination Survey (NHANES), conducted in the US,

utilised 24-hour recall to assess the usual dietary intake of 18,117 persons 1 year of age and older. The findings for children aged 1 to 3 years indicated that just 33% met recommendations for fruit, 13% for vegetables, 21% for dairy and 56% for grains.[46] In addition, more than 99% of children were exceeding recommendations for consumption of energy from solid fats and added sugars.[46] In the UK, a study of 2,336 children aged 21 months published in 2016 found that the mean daily energy and protein intakes of children significantly exceeded the level recommended in national dietary guidelines, with consumption of fibre significantly lower than recommended.[47]

In Australia, the 2011-12 National Nutrition and Physical Activity Survey collected information regarding dietary intake and foods consumed from 12,000 people aged 2 years and older across Australia.[48] Information was collected using a 24-hour dietary recall for all foods and beverages consumed on the day prior to the interview.[48] A second 24-hour dietary recall was also administered at least eight days following the initial interview.[48] In addition, the survey collected information on usual dietary behaviours.[48] Parents and guardians provided information for children aged 2 to 8 years. The survey found that 49% of children aged 2 to 3 years consumed the daily recommended number of serves of vegetables, while 9% of 4 to 8 year-olds met such recommendations.[48] Over 90% of children aged 2 to 8 years consumed the recommended number of serves of fruit per day.[48] Thirty percent of total daily energy was consumed in the form of discretionary (energy dense, nutrient poor foods for children aged 2 to 3 years, and 37% for children aged 4 to 8 years.[48] A subsequent Australian study conducted by Chai and colleagues in 2015 assessed the dietary intake

of 54 children aged 2 to 3 years using a validated food frequency questionnaire administered to parents or caregivers.[49] The study found that no child met all dietary guideline recommendations, with the majority of children consuming inadequate serves of breads and cereals, vegetables and meat and meat alternatives.[49]

CURRENT PHYSICAL ACTIVITY BEHAVIOURS OF CHILDREN

Three systematic reviews have been conducted to describe the physical activity levels of children aged 5 years and younger.[50,51,50] All reviews have found low levels of child participation in physical activity, significantly less than the recommendations specified in national guidelines. Tucker and Irwin synthesized 39 studies representing 10,316 participants from seven different countries.[50] The review assessed the prevalence of children aged 2 to 6 years participating in 60 minutes of moderate-to-vigorous physical activity per day.[50] Physical activity was assessed via accelerometer, pedometer, heart rate monitor, direct observation, doubly labelled water technique and proxy-report (parent or teacher).[50] Review findings indicated that of the 39 included studies, 21 (54%) reported that children participated in at least 60 minutes of physical activity per day.[50] The second systematic review conducted by Hnatiuk and colleagues included 37 studies conducted in 11 different countries.[51] The review described the amount of time children aged 3 to 5 years engaged in light and moderate-to-vigorous physical activity per day.[51] Physical activity was assessed via accelerometers, direct observation and heart rate telemetry.[51] The review found that across all studies, children

participated in moderate-to-vigorous physical activity for an average of 47 minutes per day.[51] The third systematic review by Bornstein and colleagues included 29 studies representing 6309 children from 29 included studies.[52] Physical activity was assessed using accelerometer only. The results of the review indicated that children spent an average of 42.8 minutes (5.5%) per day engaged in moderate-to-vigorous physical activity.[52]

Australian studies similarly indicate that young children do not participate in sufficient physical activity. A small number of studies have assessed the physical activity behaviours of children aged 0 to 5 years and found that children participate in physical activity for 127 minutes (16%) per day[53] including 34 to 40 minutes of moderate-to-vigorous physical activity.[53,54]

CHILDCARE SERVICES AS A SETTING TO SUPPORT CHILD OBESITY PREVENTION

Working within settings is an internationally recommended approach by which to create supportive environments for health promotion and chronic disease prevention.[55] The approach originated from the World Health Organization, with the "Healthy Setting" movement arising from the "Health for All" strategy in 1980.[56] The approach, based in socio-ecological theory, was later built upon in the Ottawa Charter for Health Promotion[57] and the Jakarta Declaration on Leading Health Promotion into the 21st Century.[58] It considers the physical, organisational, and social contexts in

which people are located as potential avenues for intervention; not only the people within or defined by a particular setting.[55] The settings-based approach recognises that the influence of such contexts on the health-related behaviours of individuals interacting with that setting, and in order to influence such contexts, multi-faceted approaches to health promotion are required.[55] Internationally, many governments and organisations have since incorporated settings-based approaches within various health promotion and chronic disease prevention strategies. For example the World Health Organization Global Strategy on Diet, Physical Activity and Health recognises childcare services as a key setting to create environments more supportive of child obesity prevention for a variety of reasons.[29]

Best practice guidelines recommend childcare services implement a range of healthy eating, physical activity and obesity prevention policies and practices

Internationally, evidence-based best practice guidelines for childcare services recommend that services implement a range of policies and practices to create an environment supportive of child obesity prevention and promote child healthy eating and physical activity.[59,60] The National Academy of Medicine provide frameworks, goals, recommendations, and actions for childcare services to implement in order to create healthy environments for young children.[43,61] Recommendations for childcare services include increasing physical activity, decreasing sedentary behaviours and limiting screen time, promoting the consumption of a variety of nutritious foods, and

creating a healthful eating environment that is responsive to children's hunger and fullness cues.[43] In summary, guidelines internationally recommend that services develop and implement nutrition policies, ensure that staff role model healthy eating behaviours, promote the consumption of a variety of nutritious food and ensure foods provided to children align with dietary guidelines, and create a positive mealtime environment. For physical activity, internationally, guidelines recommend that services develop and implement physical activity policies, encourage child participation in daily physical activity through structured staff-led physical activity, provide multiple opportunities for outdoor active play, provide a variety of portable play equipment, ensure that staff role model and participate in physical activity with children, and limit opportunities for sedentary and screen time.

In Australia, national best practice guidelines for the childcare setting provide 10 healthy eating and five physical activity recommendations for childcare services to implement.[62] In the state of New South Wales, the Ministry of Health recommends the implementation of 15 policies and practices to promote and encourage healthy eating, improve physical activity, limit small screen recreation, and improve the quality of service delivery in childcare.[63] Examples include the development of written nutrition and physical activity policies; monitoring of children's lunchboxes; provision of fruits, vegetables, healthy snacks and age-appropriate drinks; provision of daily opportunities for fundamental movement skill development; and communication with families regarding healthy eating and physical activity.

Childcare services provide access to a large proportion of the population

In developed countries, centre-based childcare services provide access to a large proportion of the population aged between 0 and 5 years of age. Between 50% and 80% of children in countries such as the US, UK and Australia access some form of centre-based childcare facility (such as preschools, long day care services, early education programmes, infant classes, crèche and nurseries).[64] In Australia, 83% of children aged 4 and 5 years attend a preschool programme, prior to the commencement of formal schooling.[65] Further, children accessing centre-based childcare services often do so for considerable periods of time. Certain types of centre-based childcare such as long day care services often provide extended hours of care for children (up to 12 hours per day). Children attending some form of childcare facility in Australia do so for 18 hours per week on average, with 9% attending for 35 hours or more per week.[65] Given such broad reach, even small changes could positively impact on large numbers of children.

Existing infrastructure within childcare services can facilitate the promotion of child healthy eating and physical activity

Childcare services have existing infrastructure to facilitate, support and promote child healthy eating and physical activity. Licensing and accreditation requirements for the childcare setting require childcare services to implement policies, practices and programmes that promote the health, safety and physical development of children in their care. For example, many US states implement regulations prohibiting or limiting

foods of low nutritional value, and require that daily outdoor activity time be provided for children in care including gross motor activities and activities that use large muscle groups.[66] In Australia, the national childcare regulatory body requires childcare services to embed healthy eating and physical activity within the service programme for children, and implement nutrition policies to ensure that the foods provided by the service are nutritious.[67] Childcare services also provide an educational environment within which healthy eating and physical activity can be promoted, and facilitate actions which can support the development of these behaviours.[68-70] Childcare service staff also appear to be amenable to the delivery of childhood obesity prevention programmes and interventions to support child healthy eating and physical activity, and perceive this to be part of their position as teachers and educators.[71]

There is scope to improve the dietary intake and physical activity behaviours of children during attendance at childcare

Research suggests that there is considerable opportunity to improve the dietary intake and physical activity behaviours of children during attendance at childcare. A systematic review of 13 studies on preschool children's physical activity levels at childcare found that overall, children's activity levels in care were consistently low, with almost all included studies reporting that children participated in less than 60 minutes of moderate-to-vigorous physical activity each day.[72] Multiple studies conducted in the US and UK have also found that children engage in moderate-to-vigorous physical activity for just 9% to 15% of their time at childcare.[73-75] Similarly, a

number of studies of childcare services where meals are prepared and provided on-site have found that children rarely consume sufficient serves of vegetables in care as recommended by dietary guidelines,[76,77] with additional studies in services where food is provided by parents, often finding packed lunched to contain excessive quantities of high energy, nutrient poor foods.[78,79]

Childcare service policies, practices and programmes can influence child diet and physical activity behaviours and weight status

There is evidence to suggest that the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes by childcare services can positively influence child diet and physical activity behaviours and weight status. Table 1.1 summarises systematic review evidence regarding childcare service policies and practices that have been reported to be associated with, or found to be effective in improving child health behaviour.

Table 1.1: Summary of systematic review evidence for childcare policies, practices and programmes that may influence child diet, physical activity and weight status

POLICIES, PRACTICES OR PROGRAMMES RELATED TO:	EVIDENCE SUPPORTING THE IMPACT/ASSOCIATION WITH CHILD DIET, PHYSICAL ACTIVITY AND WEIGHT STATUS
Healthy eating	• A systematic review by Mikkelsen and colleagues[69] found randomised controlled trial, quasi-experimental trial and pre-post evidence that suggests that nutritional educational programmes resulted in a significant increase in child consumption of fruit and vegetables (1 study), and a decrease in body-mass index (1 study).
	• The systematic review by Mikkelsen and colleagues[69] also found randomised controlled trial and quasi-experimental trial evidence that suggests that multi-component interventions including educational activities, improved availability of fruit, vegetables and water, child participation in growing vegetables, parent newsletters and nutrition policies resulted in a significant increase in fruit and vegetable consumption (6 studies).
	• The systematic review by Mikkelsen and colleagues[69] also found randomised controlled trial, quasi-experimental trial and pre-post evidence that suggests that modifications to a single factor in the environment to promote fruit and vegetable intake and preferences in children improved fruit but not vegetable intake in children (8 studies).
	• A systematic review by Zhou and colleagues[70] found randomised and non-randomised controlled trial evidence that suggests that interventions with nutrition components including in-class structured nutrition education for children (for example games, cooking classes, tastings and book readings) resulted in improvements in child dietary intake and a variety of eating habits, including consuming a lower percentage of calories from saturated fat, higher intake of fruit and vegetables, and fewer unhealthy lunch items (6 studies).
	• A systematic review by Ward and colleagues[71] found randomised controlled trial and quasi-experimental trial evidence that suggests that positive changes in children's eating behaviours occurred when educators used recommended meal-time practices (5 studies). Practices included the use of non-food rewards, encouraging children to 'try one bite', choice-offering, silent and enthusiastic modelling, allowing children to self-select their food instead of serving pre-portioned foods, serving fruits and vegetables before other foods, and using positive verbal reinforcement.
	• A systematic review by Sisson and colleagues[72] found randomised controlled trial, quasi-experimental, pre-post study and non-experimental/natural experiment evidence to suggest that interventions focused on the childcare environment (for example creative and fun curriculums for children, enhancing the childcare service environment, policies, practices, menus, and food preparation procedures), and provision of technical support found favourable effects on child nutrition (39 studies).

POLICIES, PRACTICES OR PROGRAMMES RELATED TO:	EVIDENCE SUPPORTING THE IMPACT/ASSOCIATION WITH CHILD DIET, PHYSICAL ACTIVITY AND WEIGHT STATUS
Physical activity	• A systematic review by Ward and colleagues[71] found randomised controlled trial and quasi-experimental trial evidence that suggests that educator-led interventions that required educators to provide lessons on gross motor skills, actively participate in children's physical activities, and use various methods of encouraging children to be active found a positive effect on child moderate-to-vigorous physical activity (4 studies).
	• A systematic review by Finch and colleagues[73] found randomised controlled trial evidence that suggests that interventions including structured active lessons, an environmental enhancement strategy, and all interventions overall significantly improved child physical activity (16 studies).
	• A systematic review by Temple and colleagues[74] found evidence that suggests playground-oriented interventions such as the addition of playground markings or equipment or changing playground density resulted in increased child physical activity (4 of 6 studies).
	• A systematic review by Zhou and colleagues[70] found randomised and non-randomised controlled trial evidence that suggests that physical activity education sessions or child engagement in playful games resulted in physical activity behaviour change, including increased active play or higher levels of physical activity, improved movement skills, improved aerobic fitness, and reduced screen time (8 studies).
	• A systematic review by Sisson and colleagues[72] found randomised controlled trial, quasi-experimental, pre-post study and non-experimental/natural experiment evidence to suggest that interventions focusing on the childcare environment and that included structured physical activity, parental engagement, staff training and wellness, and technical support and training, found desired changes in child physical activity (30 studies).

Collectively the findings of the reviews suggest that that childcare service implementation of healthy eating and physical activity policies, practices and programmes is likely to result in positive outcomes on child dietary intake, physical activity behaviours and weight status.

Current implementation of healthy eating, physical activity and obesity prevention policies and practices by childcare services is sub-optimal

Despite recommendations from best practice guidelines and evidence from systematic reviews suggesting improvements to child health, international research suggests that the implementation of obesity prevention policies and practices by childcare services is sub-optimal. A survey of 40 childcare services in the US state of New York found that half did not provide drinking water in the classroom and more than 80% of children did not meet the recommended dietary intake for vegetables.[86] A second US study involving 50 childcare services located in the state of North Carolina, found that at half of the services, staff were observed consuming sugar-sweetened beverages in front of children with less than one third of services implementing written policies regarding food brought in by staff, staff role modelling healthy eating, or staff having informal nutrition talks with children at mealtimes.[87] In South Carolina, direct observations conducted at 33 childcare services found mean physical activity environment scores (assessing eight practices including active opportunities, provision of play equipment and staff behaviours) to be just 8.6 out of a possible 20.[88] In the UK, a study of 851 nurseries found that 69% served high-fat meats sometimes, 69% served vegetables

daily and 72% served fruit juice at mealtimes.[89] In Australia, a study involving 29 childcare services found that 60% of child lunchboxes contained more than 1 serve of high fat, salt or sugar foods or drinks[78] with a second Australian study of 46 childcare services finding no service provided foods in line with dietary guidelines for all food groups.[90]

Similarly, adherence to best practice guidelines for physical activity is also inadequate. One study conducted in the US found that few childcare services implemented physical activity promoting practices in line with best practice recommendations.[59] For example, less than 60% of the 96 childcare services observed had a written physical activity policy and the majority (61%) of service staff did not participate with children in active play.[59] In New Zealand, a cross-sectional study of 237 childcare services found just 35% of services had a written physical activity policy, with no policy addressing use of screen time.[91] A further study conducted in Australia with 261 childcare services found that approximately half had a written physical activity policy, 46% to 60% programmed time each day for fundamental movement skill development and 25% to 28% provided opportunities for sedentary screen time (such as television viewing) each day for children.[92]

Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies and practices by childcare services

If the comprehensive implementation of healthy eating, physical activity and obesity prevention policies and practices in childcare services is not achieved, the potential public health benefits of intervention in this setting will not be realised. Implementation research is the study of strategies designed to integrate evidence-based health-related policies, practices or programmes within specific settings.[93] However, there has been limited research conducted to date to examine the effectiveness of strategies to facilitate the implementation of such policies and practices in community settings including childcare services. Prior to this thesis, just one systematic review had been conducted examining implementation interventions in community settings. The review, published in 2010 by the Agency for Healthcare Research and Quality, investigated the effectiveness of strategies in any community setting to implement policies or practices to reduce behavioural risks for cancer, including healthy eating, physical activity, smoking and sun protection.[94] The review did not identify any implementation trials targeting healthy eating, physical activity or obesity prevention in childcare services. Given this, there is currently a lack of high quality evidence to specifically inform the implementation of healthy eating, physical activity and obesity prevention policies and practices in the childcare setting.

THESIS CONTEXT AND AIMS

This thesis was conducted in the context of national, state and local initiatives that have involved childcare services as a setting to support child obesity prevention. In Australia, the National Preventative Health Strategy (2009) identified a number of settings including workplaces, schools and childcare services as potential settings for action to promote healthy eating and physical activity and prevent overweight and obesity.[95] Further, within the state of New South Wales, a child obesity summit held in 2002 provided a foundation for subsequent child obesity prevention initiatives across the state. Following the summit, numerous child obesity plans, policies and programmes were implemented in New South Wales. The New South Wales state government recognised childcare services as one key setting for the delivery of initiatives to improve the healthy eating and physical activity behaviours of young children aged 0 to 5 years.[96] In acknowledgement of this, in 2010 the New South Wales Ministry of Health established the Healthy Children Initiative and provided funding to support childcare services across the state to implement healthy eating, physical activity and obesity prevention policies and practices. At the local level, programmes such as 'Good for Kids. Good for Life' (2006 to 2010)[97] have been implemented across the Hunter New England region of New South Wales with the aim of preventing childhood overweight and obesity using a multi-setting capacity building approach, including childcare services. The primary trial conducted as part of this thesis built on the research conducted as part of the 'Good for Kids. Good for Life' programme and aligned with New South Wales Ministry of Health recommendations regarding the

implementation of obesity prevention policies and practices in childcare. The trial was funded by a nationally competitive grant from the Australian National Preventive Health Agency and aimed to identify how best to support childcare services to implement healthy eating, physical activity and obesity prevention policies and practices.

The aims of this thesis are:

- To describe the dietary intake and physical activity levels of children attending Australian childcare services (Chapter 2)
- To systematically review and synthesise the current evidence for the effectiveness of strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes within childcare services (Chapter 3)
- To develop (Chapter 4) and evaluate the effectiveness of (Chapter 5) an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services
- To discuss the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting (Chapter 6)
- To provide a summary of thesis findings and implications for future policy, practice and research (Chapter 7)

This thesis conforms to the University of Newcastle's guidelines regarding thesis submission by publication (Appendix 1.1) and is composed of six subsequent chapters (following this thesis opening chapter) that address the above aims. Four chapters (Chapters 3, 4, 5 and 6) consist of published papers or papers accepted for publication in peer-reviewed journals, and one chapter (Chapter 2) consists of a paper currently under review.

REFERENCES

1 World Health Organization. Obesity and overweight. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/mediacentre/factsheets/fs311/en/.

2 World Health Organization. Global status report on noncommunicable diseases 2010. Geneva, Switzerland, World Health Organization, 2011. http://apps.who.int/iris/bitstream/10665/44579/1/9789240686458_eng.pdf

3 Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011-2012. *Journal of the American Medical Association.* 2014;311(8):806-14.

4 Bates B, Lennox A, Prentice A, Bates C, Page P, Nicholson S, et al. National Diet and Nutrition Survey Results from Years 1, 2, 3 and 4 (combined) of the Rolling Programme (2008/2009-2011/2012). London, England, Public Health England, 2014.

5 World Health Organization. Overweight and obesity. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/gho/ncd/risk_factors/overweight_text/en/

6 Australian Bureau of Statistics. 4364.0.55.001 - National Health Survey: First Results, 2014-15. Canberra, Australia, Australian Bureau of Statistics, 2015. http://www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.001

7 Australian Bureau of Statistics. 4364.0.55.003 - Australian Health Survey: Updated Results, 2011-2012. Canberra, Australia, Australian Bureau of Statistics, 2015. http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/33C64022ABB5ECD5CA257B8200179437?opendocument

8 Sassi F, Devaux M, Cecchini M, Rusticelli E. The obesity epidemic: analysis of past and projected future trends in selected OECD countries. Paris, France, OECD Publishing, 2009.

9 United Nations Children's Fund, World Health Organization, The World Bank. Levels and trends in child malnutrition: UNICEF-WHO-The World Bank joint child malnutrition estimates. UNICEF New York, World Health Organization Geneva, The World Bank Washington DC, 2015.

10 World Health Organization. Childhood overweight and obesity. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/dietphysicalactivity/childhood/en/

11 De Onis M, Blössner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. *The American Journal of Clinical Nutrition.* 2010;92(5):1257-64.

12 Magarey AM, Daniels LA, Boulton T. Prevalence of overweight and obesity in Australian children and adolescents: reassessment of 1985 and 1995 data against new standard international definitions. *The Medical Journal of Australia.* 2001;174(11):561-4.

13 Maynard M, Gunnell D, Emmett P, Frankel S, Smith GD. Fruit, vegetables, and antioxidants in childhood and risk of adult cancer: the Boyd Orr cohort. *Journal of Epidemiology and Community Health.* 2003;57(3):218-25.

14 Kaikkonen JE, Mikkilä V, Magnussen CG, Juonala M, Viikari JS, Raitakari OT. Does childhood nutrition influence adult cardiovascular disease risk? Insights from the Young Finns Study. *Annals of Medicine.* 2013;45(2):120-8.

15 Guh DP, Zhang W, Bansback N, Amarsi Z, Birmingham CL, Anis AH. The incidence of co-morbidities related to obesity and overweight: a systematic review and meta-analysis. *BMC Public Health.* 2009;9(1):1.

16 World Health Organization. Global Health Observatory (GHO) data - Obesity. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/gho/ncd/risk_factors/obesity_text/en/

17 World Health Organization. Metrics: Disability-Adjusted Life Year (DALY). Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/

18 Institute for Health Metrics and Evaluation. About GBD. Seattle, US, University of Washington, 2016. http://www.healthdata.org/gbd/about

19 Forouzanfar MH, Afshin A, Alexander LT, Anderson HR, Bhutta ZA, Biryukov S, et al. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet.* 2016;388(10053):1659-1724.

20 Australian Institute of Health and Welfare. Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011. Australian Burden of Disease Study series no. 3. BOD 4. Canberra, Australia, Australian Institute of Health and Welfare, 2016.

21 Gray V, Holman C. Deaths and premature loss of life caused by overweight and obesity in Australia in 2011-2050: Benefits from different intervention scenarios. Report for the National Preventative Health Taskforce. Perth, Australia, University of Western Australia, 2009.

22 Access Economics. The growing cost of obesity in 2008: three years on. 2008.

23 Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: payer-and service-specific estimates. *Health Affairs.* 2009;28(5):w822-31.

24 Withrow D, Alter D. The economic burden of obesity worldwide: a systematic review of the direct costs of obesity. *Obesity Reviews.* 2011;12(2):131-41.

25 Colagiuri S, Lee C, Colagiuri R, Magliano, Shaw JE, Zimmet PZ, et al. The cost of overweight and obesity in Australia. *Medical Journal of Australia.* 2010;192(5):260-4.

26 Pi-Sunyer FX. The obesity epidemic: pathophysiology and consequences of obesity. *Obesity Research.* 2002;10(S12):97S-104S.

27 Gortmaker SL, Swinburn BA, Levy D, Carter R, Mabry PL, Finegood D, et al. Changing the future of obesity: science, policy, and action. *The Lancet.* 2011;378(9793):838-47.

28 Ambrosini GL. Childhood dietary patterns and later obesity: a review of the evidence. *Proceedings of the Nutrition Society.* 2014;73(1):137-46.

29 World Health Organization. Global Strategy on Diet, Physical Activity and Health. Geneva, Switzerland, World Health Organization, 2004.

30 Nader PR, O'Brien M, Houts R, Bradley R, Belsky J, Crosnow R, et al. Identifying risk for obesity in early childhood. *Pediatrics.* 2006;118(3):e594-601.

31 Singh AS, Mulder C, Twisk JW, Van Mechelen W, Chinapaw MJ. Tracking of childhood overweight into adulthood: a systematic review of the literature. *Obesity Reviews.* 2008;9(5):474-88.

32 Herman KM, Craig CL, Gauvin L, Katzmarzyk PT. Tracking of obesity and physical activity from childhood to adulthood: the Physical Activity Longitudinal Study. *International Journal of Pediatric Obesity.* 2009;4(4):281-8.

333 National Health and Medical Research Council. *Australian Dietary Guidelines.* Canberra, Australia, 2013. https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n55_australian_dietary_guidelines_130530.pdf

34 Goldfield GS, Harvey A, Grattan K, Adamo KB. Physical activity promotion in the preschool years: a critical period to intervene. *International Journal of Environmental Research and Public Health.* 2012;9(4):1326-42.

35 Mikkilä V, Räsänen L, Raitakari O, Pietinen P, Viikari J. Consistent dietary patterns identified from childhood to adulthood: the cardiovascular risk in Young Finns Study. *British Journal of Nutrition.* 2005;93(6):923-31.

36 United States Department of Agriculture. ChooseMyPlate.gov. Alexandria, USDA, 2011. https://www.choosemyplate.gov/MyPlate

37 Public Health England. The Eatwell Guide. England, Public Health England, 2016. http://www.nhs.uk/Livewell/Goodfood/Pages/the-eatwell-guide.aspx

38 Health Canada. Canada's Food Guide. Canada, Health Canada, 2007. http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/food-guide-aliment/print_eatwell_bienmang-eng.pdf

39 Australian Government Department of Health. Australia's physical activity and sedentary behaviour guidelines. Canberra, Australia, Australian Government Department of Health, 2009. http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines

40 SHAPE America. Active Start: A Statement of Physical Activity Guidelines for Children From Birth to Age 5. Reston, SHAPE America, 2009. http://www.shapeamerica.org/standards/guidelines/activestart.cfm

41 Canadian Society for Exercise Physiology. Canadian 24-Hour Movement Guidelines for the Early Years. Canada, Canadian Society for Exercise Physiology, 2017. http://csepguidelines.ca/

42 UK Department of Health. Physical activity guidelines for early years (under 5s). UK, UK Department of Health, 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213738/dh_128143.pdf

43 Institute of Medicine. Early Childhood Obesity Prevention: Policies Goals, Recommendations, and Potential Actions. Institute of Medicine, 2011. http://www.nationalacademies.org/hmd/Reports/2011/Early-Childhood-Obesity-Prevention-Policies/Recommendations.aspx

44 United States Department of Agriculture. MyPlate Daily Checklist. US, United States Department of Agriculture, 2016. https://choosemyplate-prod.azureedge.net/sites/default/files/myplate/checklists/MyPlateDailyChecklist_1200cals_Age4-8.pdf

45 Health Canada. How Much Food You Need Every Day. Canada, Health Canada, 2007. http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/basics-base/quantit-eng.php

46 National Cancer Institute. Usual Dietary Intakes: Food Intakes, US Population, 2007-10. US, National Cancer Institute, 2015. https://epi.grants.cancer.gov/diet/usualintakes/pop/2007-10/

47 Syrad H, Llewellyn C, van Jaarsveld C, Johnson L, Jebb S, Wardle J. Energy and nutrient intakes of young children in the UK: findings from the Gemini twin cohort. *British Journal of Nutrition.* 2016;115(10):1843-50.

48 Australian Bureau of Statistics. 4364.0.55.007 - Australian Health Survey: Nutrition First Results – Food and Nutrients, 2011-12. Canberra, Australia, Australian Bureau of Statistics, 2014.

49 Chai LK, Macdonald-Wicks L, Hure AJ, Burrows TL, Blumfield ML, Smith R et al. Disparities exist between the Australian Guide to Healthy Eating and the dietary

intakes of young children aged two to three years. *Nutrition and Dietetics.* 2015;73:312-20.

50 Tucker P, Irwin JD. Physical activity behaviors during the preschool years. *Child Health and Education.* 2010;2(1):60-70.

51 Hnatiuk JA, Salmon J, Hinkley T, Okely AD, Trost S. A review of preschool children's physical activity and sedentary time using objective measures. *American Journal of Preventive Medicine.* 2014;47(4):487-97.

52 Bornstein DB, Beets MW, Byun W, McIver K. Accelerometer-derived physical activity levels of preschoolers: a meta-analysis. *Journal of Science and Medicine in Sport.* 2011;14(6):504-11.

53 Hinkley T, Salmon J, Okely AD, Crawford D, Hesketh K. Preschoolers' physical activity, screen time, and compliance with recommendations. *Medicine and Science in Sports and Exercise.* 2012;44(3):458-65.

54 Wen LM, Van der Ploeg HP, Kite J, Cashmore A, Rissel C. A validation study of assessing physical activity and sedentary behavior in children aged 3 to 5 years. *Pediatric Exercise Science.* 2010;22(3):408.

55 Dooris M. Holistic and sustainable health improvement: the contribution of the settings-based approach to health promotion. *Perspectives in Public Health.* 2009;129(1):29-36.

56 World Health Organization. *Global strategy for health for all by the year 2000.* Geneva, Switzerland, World Health Organization, 1981.

57 World Health Organization. The Ottawa charter for health promotion: first international conference on health promotion, Ottawa, 21 November 1986. Geneva, Switzerland, World Health Organization, 1986.

58 World Health Oganization. Jakarta Declaration on Leading Health Promotion into the 21st Century. Geneva, Switzerland, World Health Organization, 1997.

59 McWilliams C, Ball SC, Benjamin SE, Hales D, Vaughn A, Ward DS. Best-practice guidelines for physical activity at child care. *Pediatrics.* 2009;124(6):1650-59.

60 The Children's Food Trust. The Children's Food Trust, 2016. http://www.childrensfoodtrust.org.uk.

61 Centers for Disease Control and Prevention. Spectrum of Opportunities for Obesity Prevention in the Early Care and Education Setting (ECE) CDC Technical Assistance Briefing Document. US, CDC, 2015. https://www.cdc.gov/obesity/downloads/spectrum-of-opportunities-obesity-prevention.pdf

62 Australian Government Department of Health. Get Up & Grow: Healthy Eating and Physical Activity for Early Childhood. Canberra, Australia, Australian Government Department of Health, 2009. http://www.health.gov.au/internet/main/publishing.nsf/Content/EA1E1000D846F0AFCA257BF0001DADB3/$File/HEPA%20-%20A4%20Book%20-%20Directors%20Book%20-%20LR.pdf

63 Lockeridge A, Innes-Hughes C, O'Hara BJ, McGill B, Rissel C. Munch & Move: Evidence and Evaluation Summary. North Sydney, Australia, NSW Ministry of Health, 2015.

64 Organisation for Economic Co-operation and Development. Enrolment in childcare and pre-schools. France, OECD, 2014. http://www.oecd.org/els/soc/PF3_2_Enrolment_in_childcare_and_preschools.pdf

65 Australian Bureau of Statistics. *4402.0 - Childhood Education and Care, Australia.* Canberra, Australia, Australian Bureau of Statistics, 2014.

66 O'Neill JR, Dowda M, Benjamin Neelon SE, Neelon B, Pate RR. Effects of a New State Policy on Physical Activity Practices in Child Care Centers in South Carolina. *American Journal of Public Health.* 2017;107(1):144-6.

67 Australian Children's Education and Care Quality Authority. Quality Area 2 - Children's health and safety. Sydney, Australia, ACECQA, 2012. http://www.acecqa.gov.au/Childrens-health-and-safety

68 Lawlis T, Mikhailovich K, Morrison P. Healthy eating and physical activity programs, resources and staff training in long day care and family day care settings. Australia ,University of Canberra, 2006.

69 Ward DS. Physical activity in young children: the role of child care. *Medicine and Science in Sports and Exercise.* 2010;42(3):499-501.

70 Story M, Kaphingst KM, French S. The role of child care settings in obesity prevention. *The Future of Children.* 2006:143-68.

71 Pagnini D. The Weight of Opinion: The early childhood sector's perceptions about childhood overweight and obesity. Australia, NSW Centre for Overweight and Obesity, School of Public Health, University of Sydney, 2006.

72 Reilly JJ. Low levels of objectively measured physical activity in preschoolers in child care. *Medicine and Science in Sports and Exercise.* 2010;42(3):502-7.

73 Henderson KE, Grode GM, O'Connell ML, Schwartz MB. Environmental factors associated with physical activity in childcare centers. *International Journal of Behavioral Nutrition and Physical Activity.* 2015;12(1):43.

74 Tandon PS, Saelens BE, Christakis DA. Active play opportunities at child care. *Pediatrics.* 2015;135(6):e1425-31.

75 Hesketh KR, Griffin SJ, Sluijs EM. UK Preschool-aged children's physical activity levels in childcare and at home: a cross-sectional exploration. *International Journal of Behavioral Nutrition and Physical Activity.* 2015;12(1):123.

76 Ball SC, Benjamin SE, Ward DS. Dietary intakes in North Carolina child-care centers: are children meeting current recommendations? *Journal of the American Dietetic Association.* 2008;108(4):718-21.

77 Gubbels JS, Raaijmakers LG, Gerards SM, Kremers SP. Dietary intake by Dutch 1- to 3-year-old children at childcare and at home. *Nutrients.* 2014;6(1):304-18.

78 Kelly B, Hardy LL, Howlett S, King L, Farrell L, Hattersley L. Opening up Australian preschoolers' lunchboxes. *Australian and New Zealand Journal of Public Health.* 2010;34(3):288-92.

79 Romo-Palafox MJ, Ranjit N, Sweitzer SJ, Roberts-Gray C, Hoelscher DM, Bryd-Williams, CE, et al . Dietary Quality of Preschoolers' Sack Lunches as Measured by the Healthy Eating Index. *Journal of the Academy of Nutrition and Dietetics.* 2015;115(11):1779-88.

80 Mikkelsen MV, Husby S, Skov LR, Perez-Cueto FJ. A systematic review of types of healthy eating interventions in preschools. *Nutrition Journal.* 2014;13(1):1.

81 Zhou YE, Emerson JS, Levine RS, Kihlberg CJ, Hull PC. Childhood obesity prevention interventions in childcare settings: systematic review of randomized and nonrandomized controlled trials. *American Journal of Health Promotion.* 2014;28(4):e92-103.

82 Ward S, Bélanger M, Donovan D, Carrier N. Systematic review of the relationship between childcare educators' practices and preschoolers' physical activity and eating behaviours. *Obesity Reviews.* 2015;16(12):1055-70.

83 Sisson SB, Krampe M, Anundson K, Castle S. Obesity prevention and obesogenic behavior interventions in child care: A systematic review. *Preventive Medicine.* 2016;87:57-69.

84 Finch M, Jones J, Yoong S, Wiggers J, Wolfenden L. Effectiveness of centre-based childcare interventions in increasing child physical activity: a systematic review and meta-analysis for policymakers and practitioners. *Obesity Reviews.* 2016;17(5):412-28.

85 Temple M, Robinson JC. A systematic review of interventions to promote physical activity in the preschool setting. *Journal for Specialists in Pediatric Nursing.* 2014;19(4):274-84.

86 Erinosho T, Dixon LB, Young C, Brotman LM, Hayman LL. Nutrition practices and children's dietary intakes at 40 child-care centers in New York City. *Journal of the American Dietetic Association.* 2011;111(9):1391-1397.

87 Erinosho TO, Hales DP, McWilliams CP, Emunah J, Ward DS. Nutrition policies at child-care centers and impact on role modeling of healthy eating behaviors of caregivers. *Journal of the Academy of Nutrition and Dietetics.* 2012;112(1):119-24.

88 Pate RR, O'Neill JR, Brown WH, Pfeiffer KA, Dowda M, Addy CL. Prevalence of compliance with a new physical activity guideline for preschool-age children. *Childhood Obesity.* 2015;11(4):415-20.

89 Neelon SEB, Burgoine T, Hesketh KR, Monsivais P. Nutrition practices of nurseries in England. Comparison with national guidelines. *Appetite.* 2015;85:22-9.

90 Yoong SL, Skelton E, Jones J, Wolfenden L. Do childcare services provide foods in line with the 2013 Australian Dietary guidelines? A cross-sectional study. *Australian and New Zealand Journal of Public Health.* 2014;38(6):595-6.

91 Gerritsen S, Morton S, Wall CR. Physical activity and screen use policy and practices in childcare: results from a survey of early childhood education services in New Zealand. *Australian and New Zealand Journal of Public Health.* 2016;40:319-25.

92 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell C, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child health.* 2011;47(3):73-76.

93 Schillinger D. An introduction to effectiveness, dissemination and implementation research. UCSF Clinical and Translational Science Institute (CTSI) Resource Manuals and Guides to Community-Engaged Research. San

Francisco, Clinical Translational Science Institute Community Engagement Program, 2010.

94 Rabin BA, Glasgow RE, Kerner JF, Klump MP, Brownson RC. Dissemination and implementation research on community-based cancer prevention: a systematic review. *American Journal of Preventive Medicine.* 2010;38(4):443-56.

95 Commonwealth of Australia. Australia: The Healthiest Country by 2020 – National Preventative Health Strategy – the roadmap for action. Barton, Australia, Commonwealth of Australia, 2009.

96 NSW Ministry of Health. *NSW Healthy Eating and Active Living Strategy: Preventing overwight and obesity in New South Wales 2013-2018.* North Sydney, Australia, NSW Ministry of Health, 2013.

97 W Wiggers J, Wolfenden L, Campbell E, Gillham K, Bell C, Sutherland R, et al. Good for Kids. Good for Life. 2006-2010: Evaluation Report. Sydney, Australia, NSW Ministry of Health, 2013.

CHAPTER 2

Dietary intake and physical activity levels of children attending Australian childcare services

A version of this chapter was published in Nutrition and Dietetics.

Jones J, Wyse R, Wiggers J, Yoong SL, Finch M, Lecathelinais C, Fielding A, Clinton-McHarg T, Hollis J, Seward K, Wolfenden L. Dietary intake and physical activity levels of children attending Australian childcare services. *Nutrition and Dietetics*. 2017: doi: 10.1111/1747-0080.12375

CHAPTER OVERVIEW

Chapter 1 provided evidence demonstrating the high prevalence, substantial disease burden and costs related to overweight and obesity, with the main modifiable causes of overweight and obesity including poor diet, low levels of physical activity and high levels of sedentary behaviours. Despite the existence of international evidence-based public health guidelines for dietary intake and physical activity for children, few children aged 0 to 5 years meet such recommendations. The childcare setting provides an opportunity for children to meet a significant proportion of their daily dietary and physical activity requirements while in attendance at childcare. However, few studies have described such behaviours of children while attending Australian childcare services, nor differences in these behaviours according to service characteristics. Chapter 2 consists of a study that aimed to describe the dietary intake and physical activity levels of children attending Australian childcare services, in a sample of Australian childcare services where foods are brought from home in a lunchbox. The study also examined differences between child dietary intake and physical activity; and service characteristics including service type, size, socioeconomic area and geographical location.

ABSTRACT

Aim: The primary aim of this study was to describe the dietary intake and physical activity levels of children while attending childcare. The secondary aims were to examine differences between child dietary intake and physical activity; and service characteristics including service type, size, socioeconomic area and geographical location.

Methods: A cross-sectional study was conducted with 18 centre-based childcare services in the Hunter region of New South Wales, Australia. Childcare service characteristics were assessed via telephone interview. Child dietary intake and physical activity levels were assessed during a one-day observation using previously validated tools.

Results: Children consumed a mean of 0.2 serves of vegetables, 0.7 serves of fruit, 1.4 serves of grain (cereal) foods, 0.1 serves of lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans, 0.6 serves of milk, yoghurt, cheese and alternatives, and 0.7 serves of discretionary foods. Of all child physical activity counts, 48.6% were classified as 'sedentary', and 22.3% classified as 'very active'. In bivariate analyses, children attending services located in rural areas consumed significantly more serves of vegetables (0.3 serves (SD 0.7) versus 0.1 serves (SD 0.2), p=0.05). In multivariate analyses, services with large child enrolments (>50 children) had a significantly greater

proportion of child counts classified as 'very active' (23.6% of child counts (95% CI 1.6, 29.5) versus 14.9% of child counts (95% CI 9.1, 20.6), *p*=0.007).

Conclusions: There is considerable scope to improve the diet and activity behaviours of children during attendance at childcare. Future research is needed to identify effective strategies to best support childcare services in implementing policies and practices to improve such behaviours in children.

BACKGROUND

Poor diet and inadequate physical activity are associated with the development of a variety of chronic health conditions including type 2 diabetes, cardiovascular disease, some types of cancer, and overweight and obesity.[1] Health behaviours developed in childhood track into adulthood and can influence the risk of future illness.[2-4] As early childhood is a crucial period in the establishment of dietary and physical activity habits, the World Health Organization and governments across the globe recommend intervention to support the development of healthy eating and physical activity behaviours in preschool aged children.[5]

Centre-based childcare services represent an attractive setting to promote child healthy eating and physical activity as they provide access to a large proportion of the population for extended periods of time[6,7] and accreditation processes require services to create environments that are supportive of child health.[8,9] Research also suggests that there is scope to improve the dietary intake and physical activity levels of children during attendance at childcare. For example, research conducted in the United States using objective measures reports that children engage in moderate-to-vigorous physical activity for just 9% to 15% of their time at childcare.[10-12] Similarly, a number of studies of childcare services where meals are prepared and provided on-site report that children rarely consume sufficient serves of vegetables in care as recommended by dietary guidelines.[13-15] However, little is known about the dietary intake of children

attending services where foods for child consumption are packed by parents and brought from home in a 'lunchbox'.

Previous studies suggest that children attending services located in lower socioeconomic areas may consume fewer vegetables[14] and participate in less physical activity[10] than those in higher socioeconomic areas. However, research is required examining differences in such behaviours across other service characteristics such as service size or service location (i.e. rural or urban) that have been found to be predictive of child health behaviours in settings such as schools.[16] Childcare service staff attitudes towards and actual implementation of health promoting policies and practices have also been found to differ by characteristics including service size, geographic location and socioeconomic factors.[17] Identifying differences in the health behaviours of children according to service characteristics would assist health policy makers to identify services that may be in most need of intervention support to improve child health behaviour, and to ensure that interventions in this setting do not exacerbate health inequities.

The primary aim of this study was to describe the dietary intake and physical activity levels of children while attending childcare in a sample of Australian childcare services where foods are brought from home. The secondary aims were to examine differences between child dietary intake and physical activity; and service characteristics including service type, size, socioeconomic area and geographical location.

METHODS

Design and setting

A cross-sectional study was undertaken in centre-based childcare services in the Hunter region of New South Wales, Australia. Ethical approval to conduct the study was obtained from the Hunter New England (reference 12/08/15/5.01) and the University of Newcastle (reference H-2012-0321) Human Research Ethics Committees (Appendix 2.1).

Participants

Childcare services

There are over 250 centre-based childcare services located in the study region, with more than 20,000 children aged zero to five years attending such services. Sixty four centre-based childcare services within the study region that had been randomly selected and were participating in the control group arm of a broader randomised controlled trial formed the study sampling frame.[18,19] Centre-based childcare services included both preschools and long day care services enrolling children aged from 0 to 5 years. In New South Wales, preschools provide centre-based care for between 6 and 8 hours per day and enrol children aged between 3 and 5 years. Long day care services provide centre-based care for 8 or more hours per day and usually enrol children aged from 6 weeks up to 5 years. Both types of services provide specific programmes for children aged 3 to 5 years that include educational and developmental activities to

assist children in their preparation for school.[20] Services in the study sample met the eligibility criteria of:

1. not catering exclusively for children requiring specialist care;
2. requiring parents to pack food in a lunchbox for children to consume while at care; and
3. not being fully government funded (representing approximately 3% of services in the study region).

A subsample of 21 eligible services (33%) from the control group was randomly selected using a random number function in Microsoft Excel and invited to participate in this study. The number of services was selected based on the availability of project resources.

Procedure

Service managers at the 21 randomly selected services were mailed an information statement (Appendix 2.2) and two weeks later were contacted by a research assistant via telephone and invited to provide consent for their service to participate in the study. Consenting service managers were contacted by trained telephone interviewers between May and July 2014 to complete a computer assisted telephone interview (CATI) survey which assessed service characteristics (Appendix 2.3). A one-day observation was then conducted to assess child dietary intake and physical activity levels. The observations were conducted between June and August 2014. The

observations took place during the service operating period common to both preschools and long day care services (9am to 3pm). One of four observers attended each service to observe both child dietary intake and physical activity during the one-day observation. All children in the selected room were eligible for observation. All observers underwent training prior to conducting the observations (Appendix 2.4).

Data collection and measures

Service characteristics

During the CATI (Appendix 2.3), service managers were asked to report on: service days and hours of operation; type of service (preschool or long day care service); postcode; number of enrolled and attending children; number of primary contact teaching staff; whether any Aboriginal and/or Torres Strait Islander children were enrolled at their service, and if so the number of children. The items used to assess service characteristics have been used in other surveys of Australian childcare services conducted by the research team.[17,21]

Child dietary intake

Child dietary intake (serves) for each of the five food groups listed in Australian Guide to Healthy Eating (vegetables; fruit; grain (cereal) foods; lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans; milk, yoghurt, cheese and alternatives) as well as discretionary foods was assessed using a modified version of the validated Dietary Observation for Child Care protocol (Appendix 2.5).[22] Observers completed a

20-food certification test prior to data collection and correctly described more than 90% of items. Dietary intake was observed in three randomly selected children per service. The observer in each service visually estimated and recorded all types and portions of foods and drinks consumed by children for both the morning snack and lunch meal, along with any amounts remaining after the conclusion of each snack or meal.[22]

Once the observation was complete, a dietitian calculated the number of serves consumed for each food group using a nutrient database[23] and the standard serve size of the food according to the Australian Guide to Healthy Eating.[24] Foods were categorised as discretionary using the Australian Guide to Healthy Eating with reference to the Australian Bureau of Statistics Discretionary Food List where unclear.[25]

Child physical activity

Child physical activity levels were assessed during the same one-day observation by the same observer, using a modified version of the validated System for Observing Play and Leisure in Youth (SOPLAY) tool and protocol (Appendix 2.5).[26,27] SOPLAY is a standardised instrument for assessing physical activity levels in recreational settings using systematic, momentary time sampling of a predetermined area.[26] Prior to data collection observers were assessed using the SOPLAY DVD and correctly counted the number of people engaged in either 'sedentary', 'walking' or 'very active' physical activity, with between 61% and 71% accuracy. The observers assessed the level of the

physical activity of all children occurring during each physical activity occasion (i.e. outdoor free play and structured physical activity) between 9am and 3pm by scanning and counting the number of individual children engaged in 'sedentary', 'walking' or 'very active' physical activity every 10 minutes for the duration of each occasion.

Statistical analyses

Statistical analyses were performed using the statistical software program SAS (version 9.3). Statistical significance was set at $p<0.05$. Descriptive statistics were used to describe the characteristics of participating childcare services.

Descriptive statistics were also used to describe the number of serves consumed of each food group listed in the Australian Guide to Healthy Eating; the proportion (%) consumed of the daily recommended serves for each food group; and the proportion of children (counts) engaged in 'sedentary', 'walking' or 'very active' physical activity overall and during outdoor free play and structured physical activity. Differences between child intake of each food group, and the following variables: service type, size, socioeconomic area, and geographical location, were tested using linear regression models within a generalised estimating equation (GEE) framework to adjust for clustering within services. Separate linear regression models (unadjusted) were used for each comparison. A screening criterion of $p<0.25$ was used to determine the variables to be included in a series of multivariate models. A backwards stepwise approach was undertaken to determine the final multivariate model for each food

group, with the least significant service characteristic removed and the analysis re-run until only significant variables (p<0.05) remained. Examination of differences between service characteristics and physical activity was conducted in the same way. However level of physical activity was dichotomised into 'very active' physical activity and 'not-very active' physical activity ('sedentary' and 'walking' combined) given that SOPLAY observations have been shown to provide valid indicators of moderate-to-vigorous physical activity if coding is based on the proportion of children classified as 'very active'.[27]

RESULTS

Sample

All 21 childcare services met the study eligibility criteria and 19 of the 21 invited services consented to participate in the study (90%). Reasons for declining participation included services being too busy to participate. All 19 service managers completed the CATI survey and their service participated in the one-day observation. One service was excluded from the analyses as they had commenced providing on-site meals to children in the time between providing consent and when the observations were conducted.

Childcare service characteristics

The service characteristics of participating childcare services are described in Table 2.1. Almost all services (n=17, 94%) operated for five days per week, for an average of 9.1 hours per day. Six services were preschools (33%) and 12 were long day care services.

Table 2.1: Childcare service characteristics

CHARACTERISTIC		n=18 services	
		n	%
Service operates five days per week	Yes	17	94.4
Service type	Preschool	6	33.3
	Long day care service	12	66.7
Service size	Small (<50 child enrolments)	3	16.7
	Large (>50 child enrolments)	15	83.3
Children of Aboriginal and/or Torres Strait Islander background	Yes	13	72.2
Service socioeconomic area	High (top 50% of the state)	6	33.3
	Low (bottom 50% of the state)	12	66.7
Service geographical location	Urban	9	50.0
	Rural	9	50.0
		Mean	**SD**
Hours of operation		9.1	1.9
Number of children enrolled		85.8 (range 25-251)	52.0
Number of children of Aboriginal and/or Torres Strait Islander background enrolled		3.8	2.0
Number of primary contact teaching staff		9.5	5.9

Child dietary intake

Fifty-four children were observed during the morning snack and lunch periods. Five children were excluded from the analyses as on the day of the observation they went home prior to the lunch meal. The dietary intake of the remaining 49 children during the observations can be seen in Table 2.2. Children consumed a mean of 0.2 serves of vegetables, 0.7 serves of fruit, 1.4 serves of grain (cereal) foods, 0.1 serves of lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans, 0.6 serves of milk, yoghurt, cheese and alternatives and 0.7 serves of discretionary foods. Children consumed, on average, 5% of the recommended daily intake of vegetables, 49% of the recommended daily intake of fruit, 36% for grain (cereal) foods, 5% for lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans, and 32% for milk yogurt, cheese and alternatives. No child met the daily dietary recommendations for any food group.

Differences in child dietary intake by service type, size, socioeconomic area and geographical location

Differences in child dietary intake by service characteristics including service type, size, socioeconomic area and geographical location are also shown in Table 2.2. Children attending services located in rural areas consumed significantly more serves of vegetables compared to those attending services located in urban areas (0.3 serves (SD 0.7) versus 0.1 serves (SD 0.2), p=0.05). There were no significant differences in child

dietary intake of any food group by any service characteristic in the multivariate analyses.

Table 2.2: Differences in child dietary intake by service type, size, socioeconomic area and geographical location

		VEGETABLES		FRUIT		GRAIN (CEREAL) FOODS		LEAN MEAT AND POULTRY, FISH, EGGS, NUTS AND SEEDS, AND LEGUMES/BEANS		MILK, YOGHURT, CHEESE AND ALTERNATIVES		DISCRETIONARY FOODS[B]	
		n=49 children, mean (SD) serves											
Overall serves		0.2 (0.6)[c]		0.7 (0.6)[d]		1.4 (0.8)[e]		0.1 (0.3)[f]		0.6 (0.6)[g]		0.7 (0.7)[h]	
Proportion (%) of daily recommendation consumed [a]		5.0 (12.2)		49.3 (41.7)		35.5 (19.1)		5.2 (20.4)		32.1 (31.0)		N/A	
Independent Variable	**Class**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) Serves**	***p*-value**	**Mean (SD) serves**	***p*-value**
Service type	Preschool	0.3 (0.6)	0.41	0.7 (0.7)	0.84	1.5 (0.8)	0.54	0.1 (0.4)	0.37	0.8 (0.8)	0.42	0.6 (0.5)	0.62
	Long day care	0.2 (0.5)		0.8 (0.6)		1.4 (0.7)		0.1 (0.2)		0.6 (0.5)		0.7 (0.7)	
Service size[i]	Small (<50 child enrolments)	0.6 (1.0)	0.08	0.8 (0.4)	0.56	1.6 (0.8)	0.36	0.2 (0.4)	0.21	0.4 (0.4)	0.16	0.6 (0.5)	0.47
	Large (>50 child enrolments)	0.2 (0.4)		0.7 (0.7)		1.4 (0.8)		0.1 (0.3)		0.7 (0.7)		0.7 (0.7)	

		VEGETABLES		FRUIT		GRAIN (CEREAL) FOODS		LEAN MEAT AND POULTRY, FISH, EGGS, NUTS AND SEEDS, AND LEGUMES/BEANS		MILK, YOGHURT, CHEESE AND ALTERNATIVES		DISCRETIONARY FOODS[B]	
Independent Variable	**Class**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p* -- value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**	**Mean (SD) serves**	***p*-value**
Service socioeconomic area[j]	High (top 50% of the state)	0.4 (0.7)	0.24	0.7 (0.6)	0.97	1.3 (0.8)	0.44	0.2 (0.5)	0.08	0.8 (0.9)	0.52	0.7 (0.7)	0.30
	Low (bottom 50% of the state)	0.2 (0.4)		0.7 (0.7)		1.5 (0.8)		0.02 (0.1)		0.6 (0.4)		0.6 (0.5)	
Service geographical location[k]	Urban	0.1 (0.2)	0.05	0.7 (0.6)	0.78	1.3 (0.7)	0.45	0.1 (0.4)	0.62	0.6 (0.5)	0.76	0.7 (0.6)	0.71
	Rural	0.3 (0.7)		0.8 (0.7)		1.5 (0.8)		0.1 (0.2)		0.7 (0.7)		0.6 (0.7)	

[a] As recommended by the Australian Guide to Healthy Eating, children aged 4 to 8 years should consume the following number of serves of each food group per day: 4.5 serves of vegetables, 1.5 serves of fruit, 4 serves of grain (cereal) foods, 1.5 serves of lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans and 2 serves of milk, yoghurt, cheese and alternatives. Discretionary foods should be limited.

[b] Includes foods high in saturated fat and/or added sugars, added salt or low in fibre, for example sweet biscuits, cakes, processed meats, confectionary, savoury pastries, potato chips.

[c] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 15 grams of vegetables.

[d] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 105 grams of fruit.

[e] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 1.5 slices of bread, 0.75 cup of cooked rice or pasta, or 1 cup of wheat cereal flakes.

[f] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 7-8 grams of cooked lean red meat or poultry.

[g] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 150ml milk, 24 grams of hard cheese, or 0.5 cup of yoghurt.

[h] According to the standard serve sizes outlined in the Australian Guide to Healthy Eating this equates to approximately 40 grams of processed meat, 2 sweet biscuits, 28 grams of plain cake, or 28 grams of sugar confectionary.

[i] Services were classified as small/large if they enrolled less/more than 50 children.

[j] Service socioeconomic area was determined using service postcodes classified as being in the top or bottom 50% of the state according to the Socioeconomic Indices for Areas.

[k] Service geographic location was classified as either urban (major city) or rural (inner regional, outer regional or remote) according to the Australian Statistical Geography Standard.

Child physical activity

A total of 4152 SOPLAY child physical activity counts were completed across all services. Child physical activity levels during the observations can be seen in Table 2.3. Across all scans most child counts (48.6%) were classified as 'sedentary'. During outdoor free play time, 19.0% of child counts were classified as 'very active', while during structured physical activity sessions, 34.2% of child counts were classified as 'very active'.

Differences in child physical activity by service type, size, socioeconomic area and geographical location

Differences in child physical activity by service characteristics including service type, size, socioeconomic area and geographical location can also be seen in Table 2.3. Services with large child enrolments (>50 children) had a significantly greater proportion of child counts classified as 'very active' compared to services with small child enrolments (23.6% of child counts (95% CI 1.6, 29.5) versus 14.9% of child counts (95% CI 9.1, 20.6), p=0.007). Child physical activity also differed with service size in the multivariate analyses with services with large child enrolments (>50 children) having a significantly greater proportion of child counts classified as 'very active' compared to services with small child enrolments. As per the bivariate analysis, the multivariate analysis found no other differences between child physical activity and service characteristics.

Table 2.3: Differences in child dietary intake by service type, size, socio-economic area and geographical location

		n=18 services 4152 SOPLAY CHILD COUNTS % OF CHILD COUNTS (95% CI)	
All scans	Sedentary	48.6	(44.9, 52.2)
	Walking	29.1	(26.6, 31.7)
	Very active	22.3	(18.4, 26.2)
Outdoor free play	Sedentary	50.7	(47.3, 54.1)
	Walking	30.3	(27.4, 33.2)
	Very active	19.0	(15.5, 22.4)
Structured physical activity	Sedentary	40.9	(30.5, 51.3)
	Walking	24.9	(18.0, 31.7)
	Very active	34.2	(24.4, 44.0)

INDEPENDENT VARIABLE	CLASS	% OF CHILD COUNTS (95% CI) 'very active'		*p*-value
Service type	Preschool	24.9	(15.4, 34.4)	0.96
	Long day care	20.7	(15.4, 25.9)	
Service size[a]	Small (<50 child enrolments)	14.9	(9.1, 20.6)	0.007
	Large (>50 child enrolments)	23.6	(17.6, 29.5)	
Service socioeconomic area[b]	High (top 50% of the state)	24.7	(16.6, 32.8)	0.96
	Low (bottom 50% of the state)	21.3	(15.1, 27.5)	
Service geographical location[c]	Urban	20.1	(15.4, 24.8)	0.20
	Rural	23.9	(15.5, 32.4)	

[a] Services were classified as small/large if they enrolled less/more than 50 children.

[b] Service socioeconomic area was determined using service postcodes classified as being in the top or bottom 50% of the state according to the Socioeconomic Indices for Areas.

[c] Service geographic location was classified as either urban (major city) or rural (inner regional, outer regional or remote) according to the Australian Statistical Geography Standard.

DISCUSSION

This study provides valuable data regarding the current dietary intake and physical activity levels of children attending Australian childcare services, and is one of a small number describing actual child dietary intake in care from foods brought from home.[28] Overall the study found considerable opportunity for improvement in child dietary intake and physical activity, especially in the consumption of vegetables (especially in children attending services located in urban areas) and meat and meat alternatives. Similarly, the study found smaller services had children who were less likely to be 'very active' compared to larger services. Such findings provide valuable information for health policy makers and practitioners interested in supporting child health through public health interventions in this setting.

Best-practice guidelines for the childcare setting recommend that children attending care for eight hours per day consume half of their daily dietary requirements while at childcare.[29] During the six hour observation period of 9am to 3pm child dietary intake should account for approximately 38% of daily dietary requirements. However, levels for four of the five foods groups did not meet this proportion, with the proportion of vegetables and lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans considerably lower at 5%. Given that the usual dietary intakes of children, including foods provided at home, often do not meet nutrition guidelines,[30] it is unlikely that children would achieve the recommended quantities of these food groups outside of care. While common eating patterns in Australia often include the highest intake of

serves of meats and vegetables at the evening meal, it is unlikely that children would obtain the remaining 95% of the recommended serves of these foods in one meal. Further, children also consumed 0.7 serves of discretionary foods during the observation period. Given dietary guidelines recommend that such foods are limited, and if chosen, are only eaten sometimes and in small amounts, it is concerning that children consumed such a high amount of discretionary foods while in care. Such findings are consistent with those of previous international studies that have investigated the dietary quality of foods brought from home in a lunchbox (although not necessarily consumed).[28,31] One study conducted in the United States, found that more than 80% of the sample did not provide or consume the recommended amount of vegetables, 70% did not pack or consume enough wholegrains, seafood and plant proteins, and 60% to 70% exceeded recommendations for refined grains, sodium and saturated fats.[28] Such findings reinforce the need for interventions in this setting to improve child nutrition, with a particular focus on increasing vegetable intake and decreasing intake of discretionary foods. The provision of nutrition information to parents, staff monitoring of lunchboxes and enforcement of specific food guidelines while in care[29] have been suggested as potentially effective approaches to achieve this objective.

Children attending services located in rural areas consumed significantly more serves of vegetables (0.3 serves (SD 0.7) versus 0.1 serves (SD 0.2), p=0.05). This finding is surprising given that populations located in such areas often experience barriers such as cost and availability in accessing fresh produce.[35] However, such differences

represent just 15 grams of vegetables.[24] Differences of such magnitude may not be clinically meaningful.

The child physical activity observations indicated that approximately 22% of child counts were classified as 'very active' (moderate-to-vigorous physical activity), while almost half of all child counts were classified as 'sedentary'. These results are consistent with another childcare-based study that assessed child physical activity using the SOPLAY tool. Berg found that children attending four Canadian childcare services were engaged in 'very active' physical activity during 20% of child counts, and 51% of child counts were 'sedentary'.[32] However, previous research, conducted internationally and in Australia, utilising accelerometers to measure physical activity suggests that children engage in moderate-to-vigorous physical activity for just 9% to 15% of the time spent at childcare.[10-12] There is also evidence to suggest that observational measures of physical activity (for example SOPLAY) may over-estimate the amount of time children spent in moderate-to-vigorous physical activity.[33,34] While the SOPLAY tool has been shown to provide valid indicators of moderate-to-vigorous physical activity,[27] the use of accelerometers provides a more reliable and robust measure of physical activity and sedentary behaviours.

The findings also indicated that services with large child enrolments had a significantly greater proportion of child counts classified as 'very active'. This may be due to such services having more spacious outdoor playgrounds or more portable playground equipment, both of which have been associated with increased child moderate-to-

vigorous physical activity.[36] However the current study did not measure these environmental characteristics and therefore cannot determine the possible impact of these on child physical activity. Regardless, the results suggest that smaller services may require additional support in implementing policies and practices to ensure that children are sufficiently active while in care.

The strengths of the study include the random selection of childcare services and children, the use of validated direct observation methods for data collection, and the assessment of actual child intake of foods brought from home. Nonetheless, several study limitations are present. Primarily, the study assessed child dietary intake and physical activity on one day only. Repeated dietary intake and physical activity observations conducted over multiple days may provide a more reliable measure of usual behaviour during attendance at childcare. The Dietary Observation for Child Care protocol utilised in the study was originally designed to assess meals and snacks prepared and provided by the childcare service, and may be less accurate for services where food is brought from home. The study also did not collect any demographic information from children. Such information would have aided in the interpretation of the dietary intake data, particularly as there may be substantial differences in intake between 3 year olds and 5 year olds for example, and between girls and boys. Additionally, the SOPLAY tool itself does not directly assess moderate-to-vigorous physical activity and future studies could consider using alternate objective measures of child moderate-to-vigorous physical activity, such as accelerometers. Further the nature of the data collected via the SOPLAY tool did not allow for comparison against

national physical activity guidelines for children. Future research should consider assessing the dietary intake and physical activity behaviours of children attending services that provide on-site meals to children in Australia. The use of visual observation methods to assess the types and portions of foods and drinks consumed by children, while based on a validated protocol, may have resulted in inaccurate estimations of child dietary intake. Future studies should consider utilising more objective assessments of child dietary intake such as plate waste. Finally, the study was conducted in a small sample of childcare services from one region of New South Wales, Australia which may limit the generalisability of the study findings.

CONCLUSION

There is considerable scope to improve the dietary intake and physical activity behaviours of children attending centre-based childcare. Childcare services located in urban areas and with smaller child enrolment numbers may require additional support to implement initiatives to improve such behaviours in children. Future research is required in order to identify effective strategies to best support childcare services in implementing evidence-based policies and practices to improve the healthy eating and physical activity behaviours of children.

REFERENCES

1 World Health Organization. Global strategy on diet, physical activity and health. Geneva, Switzerland, World Health Organization, 2004.

2 Jones RA, Hinkley T, Okely AD, Salmon J. Tracking physical activity and sedentary behavior in childhood: a systematic review. *American Journal of Preventive Medicine.* 2013;44(6):651-8.

3 Craigie AM, Lake AA, Kelly SA, Adamson AJ, Mathers JC. Tracking of obesity-related behaviours from childhood to adulthood: a systematic review. *Maturitas.* 2011;70(3):266-84.

4 Shrestha R, Copenhaver M. Long-Term Effects of Childhood Risk Factors on Cardiovascular Health During Adulthood. *Clinical Medicine Reviews in Vascular Health.* 2015;7:1.

5 World Health Organization. Summary Report: Interventions on Diet and Physical Activity: What Works? Geneva, Switzerland, 2009.

6 Australian Bureau of Statistics. Childhood Education and Care, Australia, June 2014. Canberra, Australia, Australian Bureau of Statistics, 2014. http://www.abs.gov.au/ausstats/abs@.nsf/mf/4402.0

7 OECD. Enrolment in childcare and pre-schools. In OECD Family Database, 2014. http://www.oecd.org/els/soc/PF3_2_Enrolment_in_childcare_and_preschools.pdf

8 Australian Children's Education and Care Quality Authority. National Quality Framework. Sydney, Australia, ACECQA, 2016. http://www.acecqa.gov.au/national-quality-framework

9 Kaphingst KM, French S, Story M. The role of child care settings in obesity prevention. *The Future of Children.* 2006;16(1):143-68.

10 Henderson KE, Grode GM, O'Connell ML, Schwartz MB. Environmental factors associated with physical activity in childcare centers. *International Journal of Behavioural Nutrition and Physical Activity.* 2015;12(1):43.

11 Tandon PS, Saelens BE, Christakis DA. Active play opportunities at child care. *Pediatrics.* 2015;135(6):e1425-e1431.

12 Olesen LG, Kristensen PL, Korsholm L, Froberg K. Physical activity in children attending preschools. *Pediatrics.* 2013;132(5):e1310-8.

13 Ball SC, Benjamin SE, Ward DS. Dietary intakes in North Carolina child-care centers: are children meeting current recommendations? *Journal of the American Dietetic Association.* 2008;108(4):718-21.

14 Gubbels JS, Raaijmakers LG, Gerards SM, Kremers SP. Dietary intake by Dutch 1- to 3-year-old children at childcare and at home. *Nutrients.* 2014;6(1):304-18.

15 Erinosho T, Dixon LB, Young C, Brotman LM, Hayman LL. Nutrition practices and children's dietary intakes at 40 child-care centers in New York City. *Journal of the American Dietetic Association.* 2011;111(9):1391-7.

16 Nathan N, Wolfenden L, Butler M, Bell AC, Wyse R, Campbell E, et al. Vegetable and fruit breaks in Australian primary schools: prevalence, attitudes, barriers and implementation strategies. *Health Education Research.* 2011;26(4):722-31.

17 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell C, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child Health.* 2011;47(3):73-6.

18 Jones J, Wolfenden L, Wyse R, Finch M, Yoong SL, Dodds P, et al. A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services. *BMJ Open.* 2014;4(4):e005312.

19 Jones J, Wyse R, Finch M, Lecathelinais C, Wiggers J, Marshall J,et al. Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial. *Implementation Science.* 2015;10(1):147.

20 Baxter J. Child care and early childhood education in Australia. Melbourne, Australia, Australian Institute of Family Studies, 2015.

21 Finch M, Wolfenden L, Falkiner M, Edenden D, Pond N, Hardy LL, et al. Impact of a population based intervention to increase the adoption of multiple physical activity practices in centre based childcare services: a quasi experimental, effectiveness study. *International Journal of Behavioural Nutrition and Physical Activity.* 2012;9(1):101.

22 Ball SC, Benjamin SE, Ward DS. Development and reliability of an observation method to assess food intake of young children in child care. *Journal of the American Dietetic Association.* 2007;107(4):656-61.

23 Xyris Software Inc. Foodworks 7 Professional http://www.xyris.com.au

24 National Health and Medical Research Council. Australian Dietary Guidelines. Canberra, Australia, National Health and Medical Research Council, 2013. https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n55_australian_dietary_guidelines_130530.pdf

25 Australian Bureau of Statistics. Australian Health Survey. Users' guide, 2011-13 - discretionary food list. Canberra, Australia, Australian Bureau of Statistics, 2014.

26 McKenzie T. SOPLAY system for observing play and leisure activity in youth. Description and procedures manual. San Diego, California, 2006. http://activelivingresearch.org/sites/default/files/SOPLAY_Protocols.pdf

27 Saint-Maurice PF, Welk G, Ihmels MA, Richards Krapfl J. Validation of the SOPLAY direct observation tool with an accelerometry-based physical activity monitor. *Journal of Physical Activity and Health.* 2011;8(8):1108.

28 Romo-Palafox MJ, Ranjit N, Sweitzer SJ, Roberts-Gray C, Hoelscher DM, Byrd-Williams CE, et al. Dietary quality of preschoolers' sack lunches as measured by the Healthy Eating Index. *Journal of the Academy of Nutrition and Dietetics.* 2015;115(11):1779-88.

29 NSW Ministry of Health. Caring for Children Birth to 5 years (Food, Nutrition and Learning Experiences). Sydney, Australia, NSW Ministry of Health, 2015. http://www.healthykids.nsw.gov.au/downloads/file/teacherschildcare/CaringForChildrenManualWEBBOOKMARKCOMPLETEMANUALFeb15.pdf

30 Chai LK, Macdonald-Wicks L, Hure AJ, Burrows TL, Blumfield ML, Smith R, et al. Disparities exist between the Australian Guide to Healthy Eating and the dietary

intakes of young children aged two to three years. *Nutrition and Dietetics.* 2015;73:312-20.

31 Sweitzer SJ, Briley ME, Roberts-Gray C. Do sack lunches provided by parents meet the nutritional needs of young children who attend child care? *Journal of the American Dietetic Association.* 2009;109(1):141-4.

32 Berg S. Children's activity levels in different playground environments: an observational study in four Canadian preschools. *Early Childhood Education Journal.* 2015;43(4):281-7.

33 McClain JJ, Abraham TL, Brusseau Jr TA, Tudor-Locke C. Epoch length and accelerometer outputs in children: comparison to direct observation. *Medicine and Science in Sports and Exercise.* 2008;40(12):2080-7.

34 Hollis JL, Williams AJ, Sutherland R, Campbell E, Nathan N, Wolfenden L, et al. A systematic review and meta-analysis of moderate-to-vigorous physical activity levels in elementary school physical education lessons. *Preventive Medicine.* 2015;86:34-54.

35 Burns C, Gibbon P, Boak R, Baudinette S, Dunbar J. Food cost and availability in a rural setting in Australia. *Rural and Remote Health.* 2004;4(311):1-9.

36 Mehtälä MAK, Sääkslahti AK, Inkinen ME, Poskiparta MEH. A socio-ecological approach to physical activity interventions in childcare: a systematic review. *International Journal of Behavioual Nutrition and Physical Activity.* 2014;11(1):22.

CHAPTER 3

Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services

A version of this chapter was published in the Cochrane Database of Systematic Reviews.

Wolfenden L, Jones J, Williams CM, Finch M, Wyse RJ, Kingsland M, Tzelepis F, Wiggers J, Williams AJ, Seward K, Small T, Welch V, Booth D, Yoong SL. Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services. *Cochrane Database of Systematic Reviews.* 2016; Issue 10. Art. No.: CD011779. doi: 10.1002/14651858.CD011779.pub2

CHAPTER OVERVIEW

Chapter 2 demonstrated that there is a need and an opportunity to improve child dietary intake and physical activity behaviours while in care. There is evidence to suggest that implementing policies, practices and programmes in childcare to support child healthy eating and physical activity can be successful in improving such behaviours. Despite this evidence and best-practice guidelines for the setting, it is currently unclear how to best support childcare services to implement these policies, practices and programmes. Chapter 3 consists of a Cochrane review that aimed to systematically review and synthesise the current evidence for the effectiveness of strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes within childcare services.

ABSTRACT

Background: A number of childcare service-based interventions have been found to be effective in improving child diet, increasing child physical activity and preventing excessive weight gain. Despite the existence of such evidence and best-practice guideline recommendations for childcare services to *implement* these policies and practices, many childcare services fail to do so. Without proper implementation, children will not benefit from these child health-directed policies and practices.

Objectives: The primary aim of the review was to examine the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes by childcare services that promote child healthy eating, physical activity and/or obesity prevention.

Secondary aims:

The secondary aims of the review were to:

1. describe the impact of such strategies on childcare services' staff knowledge, skills or attitudes;
2. describe the cost or cost-effectiveness of such strategies;
3. describe any adverse effects of such strategies on childcare services, service staff or children;
4. examine the effect of such strategies on child diet, physical activity or weight status.

Search methods: We searched the following electronic databases on 3 August 2015: the Cochrane Central Register of Controlled trials (CENTRAL), MEDLINE, MEDLINE In Process, EMBASE, PsycINFO, ERIC, CINAHL and SCOPUS. We also searched reference lists of included trials, handsearched two international implementation science journals and searched the World Health Organization International Clinical Trials Registry Platform (www.who.int/ictrp/) and ClinicalTrials.gov (www.clinicaltrials.gov).

Selection criteria: We included any study (randomised or non-randomised) with a parallel control group that compared any strategy to improve the implementation of a healthy eating, physical activity or obesity prevention policy, practice or programme by staff of centre-based childcare services to no intervention, 'usual' practice or an alternative strategy.

Data collection and analysis: Pairs of review authors independently screened abstracts and titles, extracted trial data and assessed risk of bias; we resolved discrepancies via consensus. Heterogeneity across studies precluded the pooling of data and the undertaking of quantitative assessment via meta-analysis. However, we narratively synthesised the trial findings by describing the effect size of the primary outcome measure for policy, practice or programme implementation (or the median of such measures where a single primary outcome was not stated).

Main results: We identified ten trials as eligible and included them in the review. The trials sought to improve the implementation of policies and practices targeting healthy eating (two trials), physical activity (two trials) or both healthy eating and physical activity (six trials). Collectively the implementation strategies tested in the 10 trials included educational materials, educational meetings, audit and feedback, opinion leaders, small incentives or grants, educational outreach visits or academic detailing. A total of 1053 childcare services participated across all trials. Of the 10 trials, eight examined implementation strategies versus a usual practice control and two compared alternative implementation strategies. There was considerable study heterogeneity. We judged all studies as having high risk of bias for at least one domain.

It is uncertain whether the strategies tested improved the implementation of policies, practices or programmes to promote child healthy eating, physical activity and/or obesity prevention. No intervention improved the implementation of all policies and practices targeted by the implementation strategies relative to a comparison group. However, of the eight trials that compared an implementation strategy to usual practice or a no intervention control, seven reported improvements in the implementation of at least one of the targeted policies or practices relative to control. For these trials the effect on the primary implementation outcome was as follows: among the three trials that reported score-based measures of implementation, the scores ranged from 1 to 5.1; across the four trials reporting the proportion of staff or services implementing a specific policy or practice, the effect ranged from 0% to 9.5%; and in the three trials reporting the time (per day or week) staff or services spent

implementing a policy or practice the effect ranged from 4.3 minutes to 7.7 minutes. The review findings were equivocal as to whether such interventions improve childcare service staff knowledge or attitudes (two trials), child physical activity (two trials), child weight status (two trials) or child diet (one trial). None of the included trials reported on the cost or cost-effectiveness of the intervention. One trial assessed the adverse effects of a physical activity intervention and found no difference in rates of child injury between groups. For all review outcomes, we rated the quality of the evidence as very low. The primary limitation of the review was the lack of conventional terminology across the field of implementation science, which may have resulted in potentially relevant studies failing to be identified based on the search terms used in this review.

Authors' conclusion: Current research provides weak and inconsistent evidence of the effectiveness of such strategies in improving the implementation of policies and practices, childcare service staff knowledge or attitudes, or child diet, physical activity or weight status. Further research in the field is required.

BACKGROUND

Description of the condition

Internationally, the prevalence of overweight and obesity has increased across every region of the world in recent decades.[1] Currently over 1.5 billion adults and 170 million children are overweight or obese.[1,2] While obesity rates in high-income countries remain higher, prevalence rates in low- and middle-income countries are accelerating.[3] In Africa, for example, the prevalence of being overweight among children under 5 years is expected to increase from 4% in 1990 to 11% by 2025.[4] Excessive weight gain increases the risk of a variety of chronic health conditions. Between the years 2010 and 2030, up to 8.5 million cases of diabetes, 7.3 million cases of heart disease and stroke, and 669,000 cases of cancer attributable to obesity have been projected in the US and UK alone.[5] In Australia, between the years 2011 and 2050, 1.75 million lives and over 10 million premature years of life will be lost due to excessive weight gain.[6]

Description of the intervention

Physical inactivity and poor diet are key drivers of excessive weight gain. As excessive weight gain in childhood tracks into adulthood, interventions targeting children's diet and physical activity have been recommended to mitigate the adverse health effects of obesity on the population.[7] A recently published World Health Organization report into population-based approaches to childhood obesity prevention identified centre-based childcare services (including preschools, long day care services and kindergartens that provide educational and developmental activities for children prior to formal,

compulsory schooling) as an important setting for public health action to reduce the risk of unhealthy weight gain in childhood. Such settings provide an opportunity to access large numbers of children for prolonged periods of time.[7] Further, randomised and quasi-experimental trials have tested a number of interventions, delivered in childcare services, which have increased child physical activity and fundamental movement skill proficiency, improved child diet quality and prevented excessive weight gain.[8,9,10,11] As such, regulations and best practice guidelines for the childcare sector recommend the implementation of a number of healthy eating and physical activity policies and practices, such as: restricting sedentary screen time opportunities; ensuring meals provided by childcare services, or foods packed by parents for consumption in care, are consistent with dietary guidelines; and the provision of programmes to promote physical activity and fundamental movement skill development.[12,13,14]

Despite the existence of evidenced-based best-practice guidelines for childcare services, implementation of obesity prevention policies and practices that are consistent with such guidelines is poor.[13,15] In the US, research suggests that 75% of meat consumed in childcare is fried or high in fat, and that children consume less than 13% of dietary guideline recommendations for whole grains and 7% for dark vegetables while in care.[16] Childcare service adherence to dietary guidelines in other countries has also been reported to be poor.[17] Similarly, adherence to best-practice recommendations for physical activity is also suboptimal. For example, only 14% of US childcare services provided the recommended 120 minutes of active play per day, 57%

to 60% did not have a written physical activity policy,[13,18] and in 18% of childcare services, children were seated for more than 30 minutes at a time.[13] In Australia, it has been reported that just 48% to 50% of centre-based childcare services had a written physical activity policy, 46% to 60% had programmed time each day for fundamental movement skill development,[19] and 60% of child lunch boxes contained more than one serving of high-fat, salt or sugar foods or drinks.[20]

Without adequate implementation across the population of childcare services, the potential public health benefits of initiatives to improve child diet or physical activity, or prevent obesity, will not be fully realised. 'Implementation' is described as the use of strategies to adopt and integrate evidence-based health interventions and to change practice patterns within specific settings.[21] Implementation research, specifically, is the study of strategies designed to integrate health policies, practices or programmes within specific settings (for example, primary care, community centres or childcare services).[22] The National Institutes of Health recognises implementation research as a fundamental component of the third stage of the research translation process ('T3') and that it is a necessary pre-requisite for research to yield public health improvements.[21] While staff of centre-based childcare services are responsible for providing educational experiences and an environment supportive of healthy growth and development, including initiatives designed to reduce the risk of excessive weight gain, it may be the childcare services themselves, government or other agencies (such as for licensing and accreditation requirements) that undertake strategies aimed at enhancing the implementation of such initiatives.

There are a range of potential strategies that can improve the likelihood of implementation of healthy eating, physical activity and obesity prevention policies and practices in childcare services. The Cochrane Effective Practice and Organisation of Care (EPOC) taxonomy is a framework for characterising educational, behavioural, financial, regulatory and organisational interventions;[23] it classifies 'implementation strategies' into three categories with 22 subcategories'. Examples of such subcategories include 'continuous quality improvement', 'educational materials', 'performance monitoring', 'local consensus processes' and 'educational outreach visits'.[23]

How the intervention might work

The determinants of policy and practice implementation are complex and the mechanisms by which support strategies facilitate implementation are not well understood. Implementation frameworks have identified a large number of factors operating at multiple macro and micro levels that can influence the success of implementation.[24] However, few studies have been conducted in the childcare setting to identify key determinants of implementation in this setting. A study by Wolfenden and colleagues of over 200 childcare services in Australia examined associations between the presence of healthy eating and physical activity policies and practices and 13 factors suggested by Damschroder's Consolidated Framework for Implementation Research to impede or promote implementation.[25] The study reported that policy and practice implementation was more likely when service managers, management

committee and parents were supportive, and where external resources to support implementation were accessible. Applied implementation frameworks, such as the Theoretical Domains Framework,[26] suggest that strategies to facilitate implementation may be most likely to be effective with a thorough understanding of implementation context and barriers, and when theoretical frameworks are applied to select implementation support strategies to address key determinants of implementation. For example, knowledge barriers to implementation may be best overcome with educational meetings or materials, while activity reminders, such as decision support systems, may be particularly important in instances where staff forgetfulness is identified as a local implementation barrier.

Why it is important to do this review

A number of large systematic reviews have been undertaken to assess the effectiveness of implementation strategies in improving the professional practice of clinicians. For example Ivers and colleagues reviewed the effectiveness of audit and feedback on the behaviour of health professionals and the health of their patients and found it generally resulted in small but important improvements in professional practice.[27] Giguère and colleagues reviewed the effectiveness of printed education materials on the practice of healthcare professionals and patient health outcomes and found a small beneficial effect on professional practice outcomes.[28] Additional systematic reviews have assessed the effectiveness of additional implementation strategies including reminders,[29] education meetings and workshops,[30,31] and

incentives.[32] Despite the existence of such reviews, implementation research in non-clinical community settings remains limited.[33] While several strategies have been used to improve the implementation of healthy eating, physical activity and obesity prevention policies and practices in childcare services,[34,35] a systematic synthesis of the effects reported in such trials has not been undertaken in this setting.

To our knowledge, just one systematic review of implementation interventions in non-clinical settings (for example, schools) has been published to date.[36] The review (which was an update of an earlier Agency for Healthcare Research and Quality report[37]) investigated the effectiveness of strategies in any community setting to implement policies or practices to reduce behavioural risks for cancer, including healthy eating, physical activity, smoking and sun protection. The review included studies published between 1980 and 2008 and did not identify any implementation trials targeting healthy eating or physical activity in childcare services. An up-to-date, comprehensive review of such literature is therefore warranted.

OBJECTIVES

The primary aim of the review was to examine the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes by childcare services that promote child healthy eating, physical activity and/or obesity prevention.

The secondary aims of the review were to:

1. describe the impact of such strategies on childcare services' staff knowledge, skills or attitudes;
2. describe the cost or cost-effectiveness of such strategies;
3. describe any adverse effects of such strategies on childcare services, service staff or children;
4. examine the effect of such strategies on child diet, physical activity or weight status.

METHODS

Criteria for considering studies for this review

Types of studies

Any study (randomised, including cluster randomised, or non-randomised trials) with a parallel control group that compared:

1. a strategy to improve the implementation of any healthy eating, physical activity or obesity prevention policy, practice or programme in centre based childcare services with either no intervention or 'usual' practice;
2. two or more alternative strategies to improve the implementation of any healthy eating, physical activity or obesity prevention policy, practice or programme in centre based childcare services.

We excluded studies that did not include implementation of policy, practices or programmes as a specific aim (primary or secondary), as well as studies that did not report baseline measures of the primary outcome. There was no restriction on the length of the study follow-up period, language of publication or country of origin.

Types of participants

Centre-based childcare services such as preschools, nurseries, long day care services and kindergartens that cater for children prior to compulsory schooling (typically up to the age of 5 to 6 years). We excluded studies of childcare services provided in the home.

Types of interventions

Any strategy with the primary intent of improving the implementation of policies, practices or programmes in centre-based childcare services to promote healthy eating, physical activity or prevent unhealthy weight gain was eligible. To be eligible, strategies must have sought to improve the implementation of policies, practices or programmes by usual childcare service staff. Strategies could have included quality improvement initiatives, education and training, performance feedback, prompts and reminders, implementation resources, financial incentives, penalties, communication and social marketing strategies, professional networking, the use of opinion leaders or implementation consensus processes. Interventions may have been singular or multi-component.

Types of outcome measures

Primary outcomes

We included any measure of either the completeness or the quality of the implementation of childcare service policies, practices or programmes (for example, the percentage of childcare services implementing a food service that was consistent with dietary guidelines, or the mean number of physical activity practices implemented). To assess the review outcomes, data may have been collected from a variety of sources including teachers, managers, cooks or other staff of centre-based childcare services; or administrators, officials or other health, education, government or non-government personnel responsible for encouraging or enforcing the implementation of health-promoting initiatives in childcare services. Such data may have been obtained from audits of service records, questionnaires or surveys of staff, service managers, other personnel or parents; direct observation or recordings; examination of routine information collected from government departments (such as compliance with food standards or breaches of childcare service regulations) or other sources. Additionally, children, parents or childcare service staff may have provided information regarding child diet, physical activity or child weight status.

Secondary outcomes

1. Any measure of childcare service staff knowledge, skills or attitudes related to the implementation of policies, practices or programmes that promote child healthy eating, physical activity and/or obesity prevention.
2. Estimates of absolute costs or any assessment of the cost-effectiveness of

strategies to improve the implementation of policies, practices or programmes in childcare services.

3. Any reported adverse consequences of a strategy to improve the implementation of policies, practices or programmes in childcare services. This could include impacts on child health or development (for example, an increase in child injury following the implementation of physical activity-promoting practices), service operation or staff attitudes (for example, impacts on staff motivation or cohesion) or the displacement of other key programmes, curricula or practices.
4. Any measure of child diet, physical activity (including sedentary behaviours) or weight status. Such measures could be derived from any data source including direct observation, questionnaire, or anthropometric or biochemical assessments. We excluded studies focusing on malnutrition/malnourishment.

Search methods for identification of studies

We conducted searches for peer-reviewed articles in electronic databases. We also undertook hand searching of relevant journals and the reference lists of included trials.

Electronic searches

We searched the following electronic databases: the Cochrane Central Register of Controlled trials (CENTRAL) (2015, Issue 7), MEDLINE (1950 to 2015), MEDLINE In Process (up to 2015), EMBASE (1947 to 2015), PsycINFO (1950 to 2015), ERIC (up

to 2015), CINAHL (up to 2015) and SCOPUS (up to 2015). We adapted the MEDLINE search strategy for the other databases and we included filters used in other systematic reviews for population (childcare services),[38] physical activity,[39] healthy eating,[40] and obesity.[41] A search filter for intervention type (implementation interventions) was based on previous reviews,[36] and a glossary of terms in implementation and dissemination research.[42] See Appendix 3.1 for the detailed search strategy. An experienced librarian searched the electronic databases.

Searching other resources

We searched the reference lists of all included trials for citations of other potentially relevant trials. We conducted hand searches of all publications for the past 5 years in the journal *Implementation Science* and the *Journal of Translational Behavioural Medicine* as they are the leading journals in the field of implementation science. We also performed hand searches of the reference lists of included trials. Furthermore, we conducted searches of the World Health Organization International Clinical Trials Registry Platform (www.who.int/ictrp/) and ClinicalTrials.gov (www.clinicaltrials.gov). We included studies identified in such searches, which have not yet been published, in the 'Characteristics of ongoing studies' table (Appendix 3.3). We also made contact with the authors of included trials, experts in the field of implementation science and key organisations to identify any relevant ongoing or unpublished trials, or grey literature publications.

Data collection and analysis

Selection of studies

Pairs of review authors (from a pool of six authors) independently screened abstracts and titles. Review authors were not blind to the author or journal information. We conducted the screening of studies using a standardised screening tool developed based on the 'Cochrane Handbook for Systematic Reviews of Interventions',[43] which we piloted before use. We obtained the full texts of manuscripts for all potentially eligible trials for further examination. For all manuscripts, we recorded information regarding the primary reason for exclusion and documented this in the 'Characteristics of excluded studies' table (Appendix 3.4). We included the remaining eligible trials in the review. We resolved discrepancies between review authors regarding study eligibility by consensus. In instances where the study eligibility could not be resolved via consensus, a third review author made a decision.

Data extraction and management

Pairs of review authors (from a pool of five authors) unblinded to author or journal information, independently extracted information from the included trials. We recorded the information extracted from the included trials in a data extraction form that we developed based on the recommendations of the Cochrane Public Health Group for Developing a Cochrane Protocol.[44] We piloted the data extraction form before the initiation of the review. We resolved discrepancies between review authors regarding data extraction by consensus and, where required, via a third review author.

We extracted the following information:

1. Study eligibility, as well as the study design, date of publication, childcare service type, country, participant/service demographic and socioeconomic characteristics and number of experimental conditions, as well as information to allow assessment of study risk of bias.
2. Characteristics of the implementation strategy, including the duration, number of contacts and approaches to implementation, the theoretical underpinning of the strategy (if noted in the study), information to allow classification against the EPOC taxonomy, and to enable an assessment of the overall quality of evidence using the Grades of Recommendation, Assessment, Development and Evaluation (GRADE) approach, as well as data describing consistency of the execution of the intervention with a planned delivery protocol.
3. Primary and secondary trial outcomes, including the data collection method, validity of measures used, effect size and measures of outcome variability.
4. Source(s) of research funding and potential conflicts of interest.

Assessment of risk of bias in included studies

Overall risk of bias

Two review authors independently assessed risk of bias using the 'Risk of bias' tool described in the Cochrane Handbook for Systematic Reviews of Interventions.[43] We provided an overall rating of risk of bias ('high', 'low' or 'unclear') for each included study based on consideration of study methodological characteristics (sequence generation, allocation concealment, blinding of participants and personnel, blinding of

outcome assessment, incomplete outcome data, selective outcome reporting and 'other' potential sources of bias). Where required, a third review author adjudicated discrepancies regarding the risk of bias that could not be resolved via consensus. We included an additional criterion, 'potential confounding,' for the assessment of the risk of bias in non-randomised trial designs.[43] We also included additional criteria for cluster-randomised controlled trials including 'recruitment to cluster', 'baseline imbalance', 'loss of clusters', 'incorrect analysis' and 'compatibility with individually randomised controlled trials.'[43] We documented the risk of bias of the included studies in 'Risk of bias' tables (Appendix 3.2).

Measures of treatment effect

Differences in the measures and the primary and secondary outcomes reported in the included studies precluded the use of summary statistics to describe treatment effects. As such, the methods and outcomes of the included trials are comprehensively described in narrative form according to broad implementation strategy characteristics.

Unit of analysis issues

Clustered studies

We examined clustered trials for unit of analysis errors and we identified trials with unit of analysis errors in the 'Risk of bias' tables (Appendix 3.2).

Dealing with missing data

We contacted the authors of included trials to provide additional information if any outcome data were unclear or missing. All information we received was included in the results of the review. We noted any instances of potential selective or incomplete reporting of outcome data in the 'Risk of bias' tables (Appendix 3.2).

Assessment of heterogeneity

We were unable to perform an assessment of heterogeneity due to considerable variability in terms of study interventions, implementation outcomes, measures and comparators. Therefore we were unable to explore heterogeneity via box plots, forest plots and/or the I^2 statistic.[43] Instead the potential implications of trial heterogeneity are outlined in the discussion.

Assessment of reporting biases

The comprehensive search strategy for this review helped to reduce the risk of reporting bias. We also conducted comparisons between published reports and trial protocols, and trial registers where such reports were available. Instances of potential reporting bias are documented in the 'Risk of bias' tables (Appendix 3.2).

Data synthesis

We narratively synthesised trial findings according to the implementation strategies employed and the outcome measures reported. We used the EPOC taxonomy to classify implementation strategies.[23] As the trial heterogeneity precluded meta-

analysis, we described the effects of interventions by reporting the absolute effect size of the primary policy or practice implementation outcome for each study. We calculated the effect size by subtracting the change from baseline on the primary implementation outcome for the control or comparison group from the change from baseline in the experimental or intervention group. If data to enable calculation of the change from baseline were unavailable, we used the differences between groups post-intervention. Where there were two or more primary implementation outcome measures, we used the median effect size of the primary outcomes. Where the primary outcome measure was not explicitly identified by the study authors in the published manuscripts we used the implementation outcome on which the trial sample size calculation was based or, in its absence, we took the median effect size of all measures of policy or practice outcomes reported in the manuscript. Such an approach was previously used in the Cochrane Review of the effects of audit and feedback on professional practices published by the Cochrane EPOC Group.[27] In instances where a number of subscales of an overall implementation score were reported in addition to a total scale score, we used the total score as the primary outcome to provide a more comprehensive measure of implementation. We reverse scored implementation measures that did not represent an improvement (for example, the proportion of services without a nutrition policy). We present the effects of interventions according to the implementation strategies (classified using the EPOC taxonomy) employed by included studies and, within such groupings, according to the outcome data (continuous or dichotomous) reported.

We included a 'Summary of findings' table to present the key findings of the review (Table 3.2). We generated the table based on the recommendations of the Cochrane Handbook for Systematic Reviews of Interventions and the EPOC Group and included:

i. a list of all primary and secondary outcomes in the review;
ii. a description of intervention effect;
iii. the number of participants and studies addressing each outcome;
iv. a GRADE for the overall quality of the body of evidence for each outcome.

In particular, the table provides key information concerning the quality of evidence, the magnitude of effect of the interventions examined and the sum of available data on the main outcomes. Two review authors rated the overall quality of evidence for each outcome using the GRADE system,[45] with any disagreements resolved via consensus or, where required, by a third review author. The GRADE system defines the quality of the body of evidence for each review outcome regarding the extent to which one can be confident in the review findings. The GRADE system required an assessment of methodological quality, directness of evidence, heterogeneity, precision of effect estimates and risk of publication bias. We used the GRADE quality ratings (from 'very low' to 'high') to describe the quality of the body of evidence for each review outcome and we included these in Table 3.2.

Subgroup analysis and investigation of heterogeneity

Data were insufficient to conduct subgroup analysis or enable quantitative exploration of heterogeneity. Nonetheless, clinical and methodological heterogeneity of included

studies is described narratively. To describe the impact of implementation strategies delivered 'at scale' (defined as involving 50 or more childcare services), we performed subgroup analyses narratively for the primary implementation outcomes. Specifically, we performed subgroup analyses where included studies sought to improve implementation of policies, practices or programmes across 50 or more services.

Sensitivity analysis

We did not perform sensitivity analysis by removing studies with a high risk of bias or by removing outliers contributing to statistical heterogeneity as marked heterogeneity precluded pooled analysis.

RESULTS

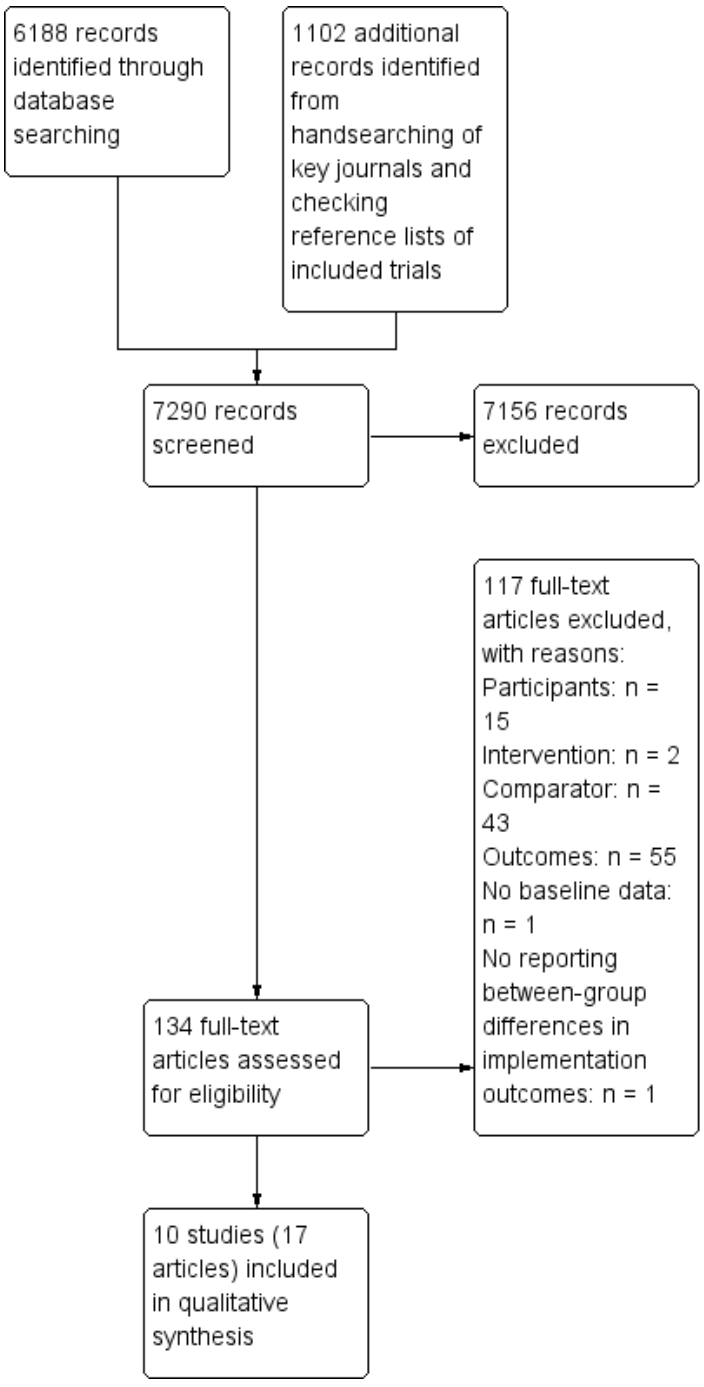
Description of studies

Results of the search

The electronic search, conducted on 3 August 2015, yielded 6188 citations (Figure 3.1). We identified an additional 1102 records by handsearching key journals and checking reference lists of included trials. We identified no additional records through our contact with the authors of included trials, experts in the field of implementation science and key organisations. Following screening of titles and abstracts, we obtained the full texts of 134 manuscripts for further review, from which we subsequently included 17 manuscripts describing 10 individual trials. We contacted the authors of five of the included trials to provide additional information where any outcome data

were unclear or missing. All authors responded and the information we received was included in the results of the review. Searches of clinical trial registration databases identified four studies as ongoing studies that have not yet been published. See 'Characteristics of included studies' (Appendix 3.2), 'Characteristics of ongoing studies' (Appendix 3.3), and 'Characteristics of excluded studies' (Appendix 3.4) tables for further details.

Figure 3.1: Study flow diagram



Included studies

Types of studies

The trials were predominantly conducted in the US (n=5),[35,46,47,48,49] and Australia (n=4),[10,34,50,51] but also included a study from Ireland (n=1).[52] Trials were conducted between 1995 and 2012, although two studies did not report the years of data collection.[47,48] There was considerable heterogeneity in the participants, interventions and outcomes (clinical heterogeneity), and the study design (methodological) characteristics of included studies.

Participants

Of the 10 included trials, seven recruited childcare services located in disadvantaged areas or specifically serving disadvantaged, low income or minority children.[34,46,48,49,50,51,52] The socioeconomic characteristics of the service locality or the children attending was not described in the remaining three trials. There was considerable variability in the number of participating childcare services in the included studies. The largest trial recruited 583 preschools.[50] However, most trials recruited 20 or fewer childcare services,[46,47,48,49,51] with the smallest trial recruiting just nine services. Three trials sought to improve implementation of policies, practices or programmes in 50 or more services.[34,35,50] Six of the 10 included trials were conducted by two research groups in the US and Australia and all were conducted in high-income countries.[34,35,46,47,50,51]

Interventions

Two trials targeted the implementation of healthy eating policies or practices only,[50,49] two targeted the implementation of physical activity policies and practices only,[34,51] and six targeted both healthy eating and physical activity policies and practices.[46,47,48,10,52,35] All trials used multiple implementation strategies. The strategies tested examined only a small number of those described in the EPOC taxonomy that could be applied to improve implementation in the setting. The definitions of each of the EPOC subcategories used to classify implementation strategies employed by studies included in the review are provided in Table 3.1. Using the EPOC taxonomy descriptors, all trials included educational meetings and educational materials.[10,34,35,46,47,48,49,50,51,52] One trial utilised these strategies with the addition of audit and feedback.[52] Three trials combined educational meetings and educational materials with educational outreach visits or academic detailing,[35,46,47] and three trials utilised these strategies with the addition of small incentives or financial grants not otherwise specified.[10,48,49] Two trials tested an intervention consisting of educational meetings and educational materials with audit and feedback, the use of opinion leaders and small incentives,[34,50] and one trial tested the impact of an implementation strategy comprising educational meetings and educational materials, academic detailing, audit and feedback, opinion leaders and small incentives.[51] Four studies reported that the strategies selected to support implementation were theoretically based,[35,47,50,51] and the theories adopted included components of social cognitive theory against a social-ecological framework,[35,47] practice change and capacity building theoretical frameworks,[50] and social-ecologic models of health behaviour change.[50]

Table 3.1: Definition of EPOC subcategories utilised in the review

EPOC subcategory	Definition
Educational materials	Distribution to individuals, or groups, of educational materials to support clinical care, i.e. any intervention in which knowledge is distributed. For example, this may be facilitated by the internet, learning critical appraisal skills; skills for electronic retrieval of information, diagnostic formulation; question formulation
Educational meetings	Courses, workshops, conferences or other educational meetings
Education outreach visits or academic detailing	Personal visits by a trained person to health workers in their own settings, to provide information with the aim of changing practice
Small incentives or grants	Transfer of money or material goods to healthcare providers conditional on taking a measurable action or achieving a predetermined performance target, for example incentives for lay health workers
Audit and feedback	A summary of health workers' performance over a specified period of time, given to them in a written, electronic or verbal format; the summary may include recommendations for clinical action
Opinion leaders	The identification and use of identifiable local opinion leaders to promote good clinical practice

Outcomes

Policy and practice implementation was primarily assessed using telephone interview, surveys/questionnaires completed by childcare service staff or audits of service documents conducted by researchers,[50,47,34,48,10,49] or by direct observation.[46,51,52,35] The validity of outcome assessments in four of the five trials utilising a survey/questionnaire to assess implementation was not reported.[50,34,48,10] In one trial, outcome assessments were conducted immediately post-intervention, and 1 and 4 months post-intervention,[47] while the remaining studies included follow-up ranging from up to 5 to 6 months,[10] 22 months,[50] or 4 years after initiation of the intervention.[52] Three trials reported outcomes of both implementation and a measure of child healthy eating, physical activity or weight status,[46,51,49] two trials included measures of childcare service staff knowledge, skills or attitudes,[34,10] one trial included a measure of potential adverse effects,[51] and none reported costs or cost-effectiveness analyses.

Study design characteristics

Seven of the included studies were randomised trials (or cluster-randomised trials),[10,35,46,47,48,51,52] and three were non-randomised trials with a parallel control group.[34,49.50] Eight trials compared an implementation strategy to usual practice or a no intervention control.[10,34,35,46,47,49,50,51] Two trials directly compared two different implementation strategies.[48,52] Four studies utilised a convenience sample of childcare services.[35,46,47,52] Four trials attempted to recruit all eligible services in the study region,[10,34,50] or randomly approached services within a study region to participate,[51]

with the service level participation rate of such studies ranging from 48%[10] to 91%.[50] The sampling procedures of two trials were unclear.[48,49]

We judged implementation to be the primary outcome in seven trials,[34,35,46,47,48,50,52,] and a secondary outcome in the remaining three trials,[10,49,51] based on the stated aims of each trial. A variety of outcome measures were employed by the included studies. Seven trials included continuous measures of implementation outcomes, including policy or environment scores,[35,46,47,52] minutes of policy or programme implementation,[10,34,51] frequency of policy or programme implementation,[10,51] or quantity of food or beverages or macronutrients provided to children.[49,50] Six trials reported a dichotomous measure of implementation, including the percentage of staff or childcare services that implemented a policy, practice or programme.[10,34,46,48,50,51] Assessment of implementation included the observation of childcare environments,[35,46,51,52] audits of menus,[49,50] or telephone interviews or surveys/questionnaires completed by staff of childcare services.[10,34,47,48,50] (Table 3.3).

Excluded studies

Following screening of titles and abstracts, we obtained the full texts of 134 manuscripts for further review for study eligibility (Figure 3.1). Of these we considered 115 studies ineligible following the trial screening process (reasons for exclusion included: participants n=15; intervention n=2; comparator n=43; outcomes n=55). We excluded a study based on 'inappropriate outcomes' if it did not report implementation outcomes, if it did not report implementation outcomes for both

intervention and control groups, or if it did not report between group difference in implementation outcomes. We excluded an additional study following the commencement of data extraction as it did not report between group differences in implementation outcomes.[53] A further two studies did not collect baseline data.[48,54] We retained one of these studies as it was a randomised trial and therefore the examination of post-intervention differences between groups was considered to be valid.[48]

Risk of bias in included studies

The level of risk of bias is presented separately for each study in Figure 3.2 and as a combined study assessment of risk of bias in Figure 3.3.

Figure 3.2: 'Risk of bias' summary: review authors' judgements about each risk of bias item for each included study

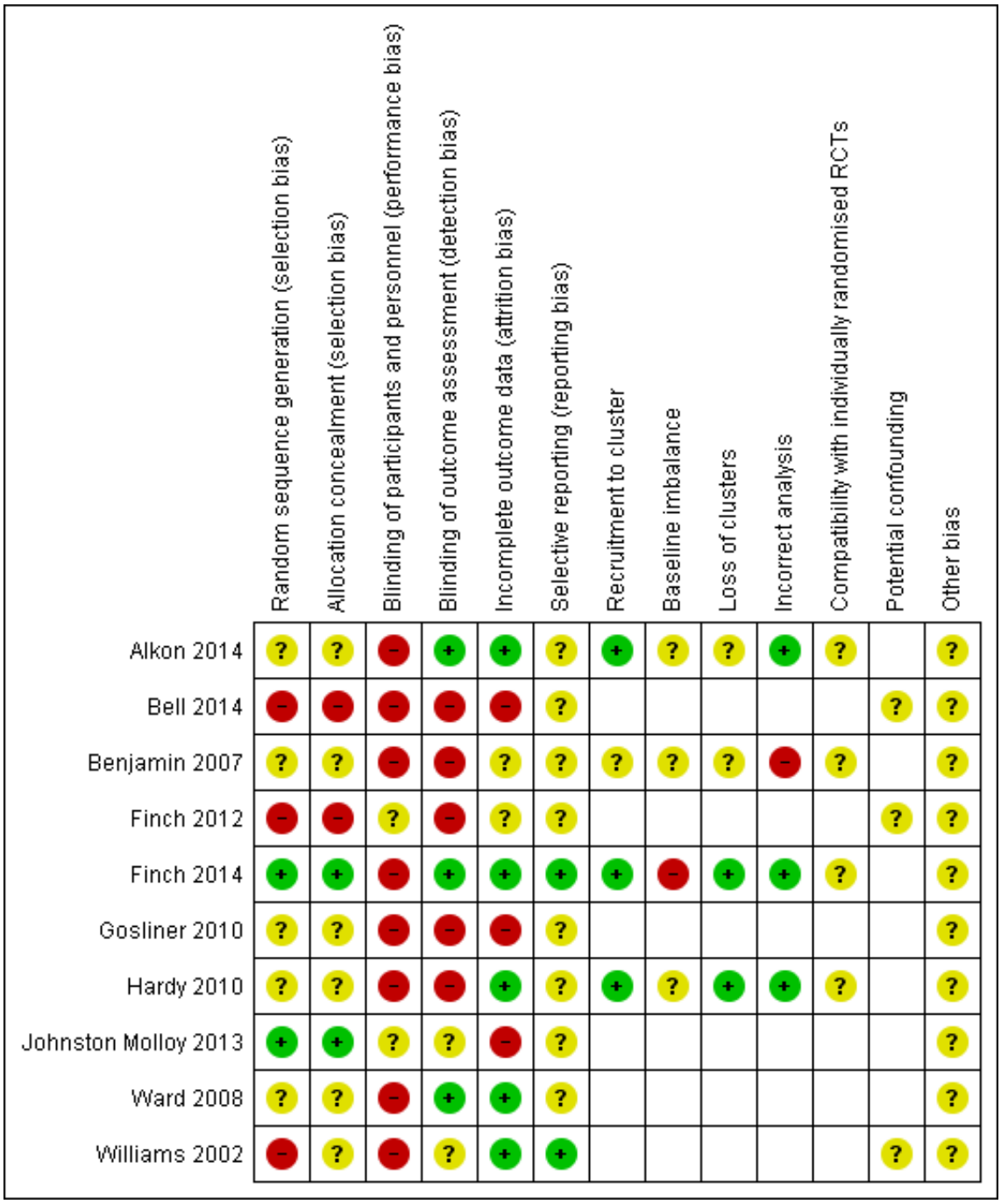
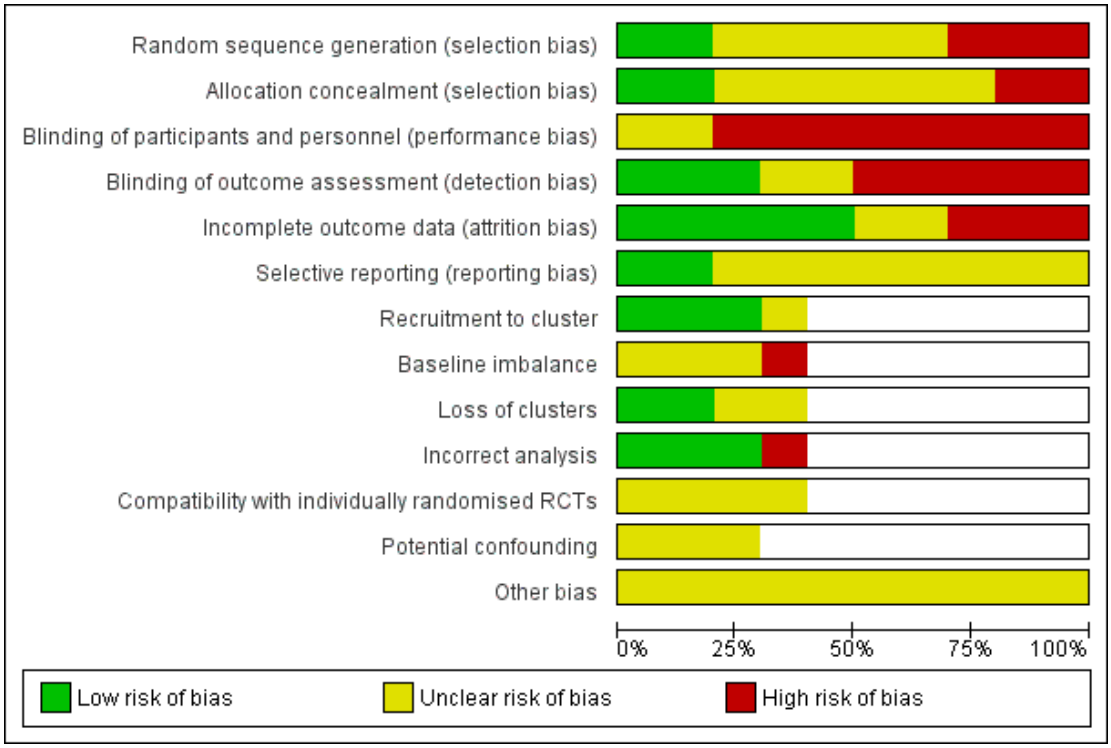


Figure 3.3: 'Risk of bias' graph: review authors' judgements about each risk of bias item presented as percentages across all included studies



Allocation

Risk of selection bias differed across studies. Only two of the studies were low risk as computerised random number functions and tables were used to generate random sequences and allocation was undertaken automatically in a single batch, preventing allocation from being pre-empted.[51,52] For the three studies with quasi-experimental, non-randomised designs, the risk of selection bias was high.[50,34,49] For the remaining five studies, such bias was unclear as these studies did not report on random sequence generation or concealment of allocation.

Blinding

For the majority of studies (n=8), the risk of performance bias was high due to participants and research personnel not being blind to group allocation. For the remaining two studies the risk of performance bias was unclear, as in both studies the control group also received some form of intervention.[34,52] Detection bias differed across studies based on whether outcome measures were objective (e.g. body mass index (BMI)) (low risk) or self-reported (high risk), and whether research personnel were blind to group allocation when conducting outcome assessment (low risk). For three studies, the risk of detection bias was low for all outcomes included in this review.[35,46,51] For the remainder of the studies (n=7), the risk of detection bias was high, low or unclear across one or more outcome measures.

Incomplete outcome data

For half the studies (n=5), the risk of attrition bias was low as either all or most participating services were followed up and/or sensitivity analysis was conducted to assess the impact of missing data. For two studies, the risk of such bias was high due to a large difference in the proportion of participating services lost to follow-up between groups.[50,52] Risk of attrition bias was also high for the study conducted by Gosliner and colleagues,[48] as participants who did not complete the intervention were excluded from the analysis. For the remaining studies, the risk of attrition bias was unclear as it was unclear whether incomplete outcome data had been addressed adequately.

Other potential sources of bias

For the four studies that were cluster-randomised controlled trials, we assessed the potential risk of additional biases.[10,46,47,51] Regarding the potential risk of recruitment (to cluster) bias, three of these studies were low risk as either a random, quasi-random or census approach was used for recruitment.[10,46,51] Regarding risk of bias due to baseline imbalances, three studies had unclear risk,[10,46,47] while one study was high risk due to baseline imbalances in service characteristics, with no mention of adjustments within the analysis.[51] Two studies were low at risk for loss of clusters as either all children were followed up or there was no loss of clusters.[10,51] For incorrect analysis, three studies were at low risk,[10,46,51] while the remaining study was high risk as no statistical analysis was undertaken due to the small sample size.[47] All four cluster randomised controlled trials were at unclear risk for compatibility with individually randomised controlled trials, as we were unable to determine whether a herd effect

existed.[10,46,47,51] For the three studies with quasi-experimental, non-randomised designs,[34,49,50] we also considered the potential risk of bias due to confounding factors. For all three studies it was unclear whether confounders were adequately adjusted for.

Effects of interventions

Most studies reported improvement in at least one of the policies or practices targeted by the implementation support strategy. Of the eight trials that compared an implementation strategy to usual practice or a no intervention control, seven reported statistically significant improvements in the implementation of at least one of the targeted policies or practices relative to control.[10,34,35,46,47,49,50] For trials comparing implementation strategies against a non-intervention or usual practice control, the absolute effect of the primary implementation outcome was as follows: among the three trials that reported score-based measures of implementation, the scores ranged from 1 to 5.1;[35,46,47] across the four trials reporting the proportion of staff or services implementing a specific policy or practice, this ranged from 0% to 9.5%;[10,34,46,50,51] and in the three trials reporting the time (per day or week) staff or services spent implementing a policy or practice, this ranged from 4.3 minutes to 7.7 minutes (Table 3.3). Two trials reported comparing two different implementation strategies: the first reported no significant improvement on any measure of implementation,[52] while the second reported significant improvements in two of the eight implementation outcomes reported.[48] The effects of interventions are presented according to the implementation strategies (classified using the EPOC taxonomy) employed by included

studies and, within such grouping, based on the outcome data (continuous or dichotomous) reported.

Primary outcome

1. Educational materials, manager and staff educational meetings, and audit and feedback versus educational materials, manager educational meetings, and audit and feedback

Continuous outcomes

Johnston Molloy and colleagues conducted a randomised, parallel-group trial testing two training-based interventions to improve implementation of nutrition and health-related activity practices in Irish full day care services (preschools).[52] Services were randomised to a 'manager and staff trained' group (n=31) or a 'manager trained' only group (n=30). Eighteen services in the 'manager and staff training' group and 24 in the 'manager trained' group provided follow-up data and were included in the main analysis. There was no single primary implementation outcome reported in the trial, however the total Preschool Health Promotion Activity Scored Evaluation score did not differ significantly between groups (absolute difference in median scores between 'manager and staff trained' versus 'manager trained' only group=-2), with median total scores improving from 15 to 34 in the 'manager and staff trained group' and 13 to 34 in the 'manager trained' only group (*p*=0.84 and 13 to 34 in the 'manager trained' only group (*p*=0.84). Similarly, there were no significant between-group differences on any of the four subscale measures of nutrition environment, food service, meals or snacks.

2. Educational materials, educational meetings, and educational outreach visits or academic detailing versus usual practice control

Continuous outcomes

Three trials assessed the impact of implementation strategies using self-assessment or observational assessment scores of either the childcare environment, or childcare policies and practices.[35,46,47] All trials assessed the effects of implementation strategies consisting of educational materials, educational meetings and educational outreach visits or academic detailing.[35,46,47] The absolute effect size for the primary implementation outcome (based on a total scale score where provided, or the median absolute effect size where multiple implementation outcomes are reported) ranged from 1 for the implementation strategies tested by Ward and colleagues and assessed via researcher observations of childcare environment,[35] to a 5.09 point improvement in Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) self-assessment score among services receiving implementation support in a trial by Benjamin and colleagues.[47]

All three studies[35,46,47] assessed the effectiveness of implementation of the NAP SACC programme.[55] The first was a randomised pilot study to assess the feasibility, acceptability and impact of the programme, which targeted implementation of 15 key service nutrition and physical activity policies and practices.[47] A convenience sample of eight counties in North Carolina, US were randomised to an intervention group or control (six intervention counties and two control). Between two and five childcare services were approached per county, and 15 services in the intervention and four in

the control region participated. Implementation support was delivered by childcare health consultants (typically registered nurses) who were provided a NAP SACC tool kit and resources. Changes in policy and practice implementation were reassessed using the NAP SACC self-assessment survey completed by service managers immediately following the six-month intervention. At follow-up, two intervention services had withdrawn and one had closed. The trial found no significant change in the NAP SACC self-assessment survey score completed by service managers in the intervention relative to the control group between baseline and immediately post-intervention (mean difference (MD) 5.10, 95% confidence interval (CI) – 2.80 to 13.00, *p*=0.21).[47]

The second evaluation of the NAP SACC programme utilised a randomised controlled trial design.[35] A convenience sample of 30 childcare health consultants in North Carolina, US were randomised to an intervention (n=20) or delayed intervention control group (n=10). A convenience sample of 84 licensed childcare services associated with participating health consultants were then recruited. Data to assess the primary trial outcome (change in nutrition and physical activity environment score) were collected at baseline and immediately following the six-month intervention using the Environment and Policy Assessment and Observation (EPAO) tool. There were significant improvement in total EPAO score among services receiving implementation support (MD 1.01, 95% CI 0.18 to 1.84, *p*=0.02). However, there were no significant differences between groups at follow-up for either the nutrition (MD 0.90, 95% CI 0.19 to 1.61, *p*=0.06) or physical activity (MD 1.15, 95% CI -0.21 t 2.51, *p*=0.19) environment subscales.

In the third study, Alkon and colleagues reported the findings of a randomised controlled trial of the NAP SACC programme conducted in 17 childcare services serving predominantly low-income familes.[46] Nutrition and physical activity policies were evaluated by a research assistant using the California Childcare Health Program Health and Safety Policy Checklist (CCHPHSPC), while a modified version of the EPAO tool was completed by a research assistant to assess nutrition and physical activity practices during a one-day observation. The trial found a significant increase in the mean policy scores, reflecting improvements in quantity and quality of nutrition and physical activity policies among intervention services at follow-up. The mean nutrition policy score increased from 0.89 at baseline to 5.17 at follow-up, with no change (0.0) in the mean score within the control group. The mean physical activity policy score increased from 0 at baseline to 2.82 at follow-up, with no change in the mean score within the control group (0.0). There were no significant differences in unadjusted nutrition (MD 0.07, 95% CI -0.16 to 0.30, *p*=0.55) or physical activity (MD 0.00, 95% CI -0.29 to 0.29, *p*=1.00) EPAO scores between groups at follow-up. Total EPAO score was not reported.

Dichotomous outcomes

The trial by Alkon and colleagues also assessed the impact of the implementation strategies on the types and portions of all foods and beverages served to children in care. Assessments were conducted by direct observations conducted by researchers using the Diet Observation in Child Care (DOCC) tool, a validated instrument.[46] At follow-up there were no significant differences between groups on 10 measures of the types and portions of foods and beverages offered to children. Non-significant

improvements favouring intervention services were observed in the offering of: healthy foods (intervention +8%, control +1%); low or non-fat milk (intervention +10%, control +2%); and low-fat meats and beans (intervention +17%, control -8%) (no other data reported).

3. Educational materials, educational meetings, educational outreach visits or academic detailing with small incentives or grants versus usual practice control

Continuous outcomes

Two trials assessed the effectiveness of implementation strategies consisting of education materials, educational meetings, educational outreach visits or academic detailing and incentives, and utilised continuous measures of implementation.[10,49] However, the measures used in each trial differed. Hardy and colleagues utilised a number of implementation measures including the duration (in minutes) (three measures) or the frequency (three measures) of staff or service implementation of practices or programmes.[10] Williams and colleagues reported changes in the macronutrients of foods served to children.[49] The primary outcome for the trial conducted by Williams was the fat content of childcare meals. The effect size of the primary implementation outcome for both trials can be seen in Table 3.3.

Hardy and colleagues conducted a cluster randomised controlled trial to evaluate the 'Munch & Move' programme in one state of Australia (New South Wales).[10] All 61 government services (preschools) in the study region were invited to participate in the trial. Twenty-nine services consented and were randomised. To assess policy and

practice implementation, interviews with all service managers occurred at baseline and immediately following the five-month intervention. The frequency of service-provided fundamental movement skill activities for children increased from 1.3 sessions per week to 3.2 sessions per week in the intervention group whilst remaining unchanged among control services, a difference that was statistically significant (difference at follow-up of 1.5, 95% CI 0.01 to 2.9, *p*=0.05). There were no significant differences between groups in the frequency of structured play sessions per week (adjusted difference 0.02, 95% CI -1.5 to 1.5), or unstructured play sessions per week (adjusted difference not reported). There were significant differences for the three measures assessing minutes per session of structured play (adjusted difference 0.09, 95% CI -11.6 to 11.8), unstructured play (adjusted difference 7.7, 95% CI -15.6 to 31.0) or fundamental movement skill sessions (adjusted difference 3.4, 95% CI -9.7 to 16.5). There were no significant differences between groups on any of the four measures of nutrition policy or practice implementation including food based activities, rules around food and food policies (effect sizes not reported).

Williams and colleagues conducted a quasi-experimental trial of a preschool education and food service intervention conducted in Head Start Centers in upstate New York.[49,56,57,58,59,60] The primary aim was to reduce the saturated fat content of service meals and to reduce consumption of saturated fat by children. Six services received either a food service intervention with nutrition classroom education curricula or an identical food service intervention with an additional classroom safety component. Both of these groups received implementation support to improve food service. Three

other childcare services with food operations not amenable to modification served as a control and received safety education curricula. The implementation of menus with a nutrient content consistent with guideline recommendations were assessed by obtaining menu recipes and food labels over a five-day period. The trial found statistically significant within-group reductions in grams of saturated fat of food listed on menus, the primary implementation outcome, reducing from 11.3 grams (standard deviation (SD) ± 1.9) to 7.6 grams (SD ± 1.7) at the 18-month follow-up. Significant within-group changes were also identified for percentage of energy (kcal) from fat, reducing from 31.0% (SD ± 2.6) to 27.6% (SD ± 2.8) at 6 months (p<0.05) and to 25.0 (SD ± 2.6) at 18 months (p<0.01). Similarly, the percentage of energy (kcal) from saturated fat reduced from 12.5 (SD ± 1.4) to 10.3 (SD ± 1.4) at 6 months (not significant) and to 8.0 (SD ± 1.2) at the 18-month follow-up (p<0.05) within the intervention group. There were no significant changes in these measures within the control group. Statistical comparisons between groups were not conducted. No other statistical significant changes were reported within either group for the 15 other nutrients measured at 18 month follow-up.

Dichotomous outcomes

Hardy and colleagues also reported trial outcomes using dichotomous measures.[10] There were no significant differences between groups on any measures of nutrition policy or practice implementation including the conduct of food-based activities, development of new rules around food and drinks bought from home, and the

provision of health information to families, with the effect sizes relative to control ranging from -7% to 31% (p>0.05).

4. Educational materials, educational meetings, educational outreach visits or academic detailing with small incentives or grants with staff wellness programme versus educational materials, educational meetings, education outreach visits or academic detailing

Dichotomous outcomes

Gosliner and colleagues conducted a randomised trial with staff from childcare services in California, US to assess the impact of an intervention on the nutrition and physical activity environment of childcare services.[48] Childcare services that were participating in a health education and policy development project (Child Health and Nutrition Center Enhancement) were matched on city of location and randomised to an intervention or control group. All services received multi-strategy implementation support. In addition, staff of intervention services received a wellness programme consisting of individual health assessments (conducted by the research team); monthly newsletters and information with pay-checks promoting healthy eating and nutrition; a group walking programme where staff received collective incentive rewards as they reached milestones; and staff follow-up support visits. At 10-month follow-up there were significant improvements in two of the eight implementation measures. Specifically, staff at intervention services were significantly more likely to report providing fruit 'more often' to children in children's meals or snacks during the past year (74% of staff) compared to staff at control services (41% of staff) (p=0.004).

Similarly, staff at intervention services were significantly more likely to report providing vegetables 'more often' to children in children's meals or snacks during the past year (64% of staff) compared to staff at control services (38% of staff) (*p*=0.03). There were no significant differences between groups in the provision of sweetened beverages (intervention 7%, control 8%) and sweetened foods (intervention and control 5%) (p-values not reported). At children's celebrations during the past year, staff at intervention services were significantly more likely to report providing fresh fruit (39% of staff) compared to staff at control services (24% of staff) (*p*=0.05). Further, intervention staff reported providing fewer sweetened beverages (7% of staff) compared to control (27% of staff) (*p*=0.05) and fewer sweetened foods (intervention 15%, control 34%) (*p*=0.025). There were no differences between groups in the provision of vegetables at children's celebrations (intervention 32%, control 24%) (p-value not reported).

5. Educational materials, educational meetings, audit and feedback, opinion leaders and small incentives versus usual practice control

Two trials assessed the effectiveness of implementation strategies consisting of education materials, educational meetings, audit and feedback, opinion leaders and small incentives.[34,50] Bell and colleagues reported the impact of the implementation strategy on four continuous measures of the quantity (number of food items or foods served) of food served to children.[50] The absolute effect size of the primary implementation outcome for this measure (calculated as the median effect across the four measures) was 0.5 serves/items (range 0.4 to 0.8). Finch and colleagues reported

a single continuous measure assessing the impact of an implementation strategy on the time spent in structured physical activities.[34] Both trials also report dichotomous measures of the proportion of services implementing a policy or practice. The absolute effect size of the primary implementation outcome for these measures was 1% (range -4% to 41%) in the trial by Finch and colleagues (calculated as the median across 10 measures) and 9.5% (range 2% to 36%) in the trial by Bell and colleagues (calculated as the median across 10 measures).

Continuous outcomes

Finch and colleagues conducted a quasi-experimental trial of a strategy to increase implementation of physical activity promoting policies and practices in centre-based childcare services.[34] All services located within the Hunter New England geographic area of New South Wales, Australia (n=338) were invited to participate in the intervention and received support to implement a number of policies and practices to promote child physical activity in care. A sample of 10% of services in the rest of the state (n=268) was randomly selected to serve as a comparison group. Services in the comparison region had the opportunity to receive government support to implement 'Munch and Move' (described above), a programme targeting similar policies and practices but utilising a less intensive series of implementation support.[10] Implementation of physical activity practices was assessed at baseline and between 8 and 12 months post-intervention via a telephone interview administered to service managers. At follow-up there was no significant difference between groups in time

spent in structured physical activities (intervention +0.2 hours, control +0.1 hours, p=0.65).

In Australia, Bell and colleagues conducted a quasi-experimental trial to determine the impact of an implementation intervention to improve healthy eating policies and practices in centre-based childcare services.[50] All services in one geographic region of the state of New South Wales, Australia (Hunter New England) were offered the intervention (n=287) and provided implementation support. A random sample of 10% of childcare services located in all other regions of New South Wales were invited to participate in the evaluation and served as a control group (n=296). The trial was conducted in the context of the 'Good for Kids. Good for Life' programme but occurred over a different period to the trial by Finch and colleagues.[34] Services allocated to the control group received usual care that may have included exposure to a government childcare programme to support healthy eating and physical activity offered to services. Baseline measures were collected between December 2006 and May 2007, while the follow-up assessment occurred between March and August 2009. An audit of menus revealed that, relative to control services, intervention services were significantly more likely to have fewer high fat, salt or sugar processed meal items (intervention -0.9 items, control -0.2 items, p=0.001), fewer sweetened drinks (intervention -0.4 items, control -0.1 items, p<0.001), fewer servings of fruit (intervention -0.5 serves, control -0.1 serves, p=0.05) and more servings of vegetables (intervention +1.0 serves, control +0.2 serves, p<0.001).

Dichotomous outcomes

In the trial by Finch and colleagues,[34] data collected via telephone interview revealed service managers in the intervention region were significantly more likely to report having a physical activity policy (intervention +28%, control +4%, $p<0.01$) with a physical activity policy that referred to limits on small screen recreation (intervention +37%, control +5%, $p<0.01$) and having staff trained in physical activity (intervention +47%, control +6%, $p<0.01$). There were no significant differences between intervention and control services at follow-up in the proportion that conducted daily fundamental movement sessions with recommended components (intervention +8%, control 1%, $p=0.08$); with a policy that referred to physical activity training for staff (intervention +23%, control +8%, $p=0.07$), where all staff usually participate in free active play (intervention +7%, control +8%), where all staff usually provide verbal prompts for physical activity (intervention +2%, control +3%), where children watch small screen recreation less than once per week (intervention -1%, control -2%), and where children participate in seated activities for no longer than 30 minutes at a time (intervention +1%, control +3%) ($p=0.65$ to 0.95).

A number of improvements in implementation outcomes assessed using dichotomous measures were reported in the trial by Bell and colleagues.[50] Relative to the services in the control group, data from interviews with service managers found a significant increase in the proportion of services providing only water and plain milk to children (non-sweetened drinks). Within the intervention group this increased from 68% at baseline to 95% at follow-up, compared with changes from 58% to 82% in control

services (p=0.02). The proportion of services where parents participated in nutrition programmes or policy development significantly increased from 65% at baseline to 77% at follow-up for intervention services compared with a change from 65% to 59% in the control group (p<0.01). There were no significant differences between groups in three other policies or practices examined and assessed via telephone interview with service managers. Furthermore, consistent with dietary guidelines, intervention services were significantly more likely than control services to have no sweetened drinks listed on their menu (intervention +46%, control +10%, p<0.001) and the appropriate servings of fruit (intervention +34%, control +4%, p<0.001) and vegetables (intervention +20%, control 4%, p=0.01) listed on the menu. There were no significant differences between groups in service adherence to guideline recommendations regarding provision of high fat, salt and sugar, and processed foods or water (intervention effect sizes +9% to +10%, p=0.11 to 1.00).

6. Educational materials, educational meetings, audit and feedback, opinion leaders and small incentives versus usual practice control

Continuous outcomes

Finch and colleagues conducted a randomised controlled trial with 20 centre-based childcare services in the Hunter region of the state of New South Wales, Australia.[51,61] The intervention primarily sought to determine the effectiveness of a physical activity intervention, implemented by childcare service staff on the physical activity levels of children attending childcare. Secondary outcomes included assessment of the effectiveness of implementation strategies and the impact of the intervention on rates

of child injury. The trial found that the time spent by children in structured physical activities at intervention services increased from 23.67 (SD ± 6.03) minutes at baseline to 52.40 (SD ± 45.29) minutes at follow-up, whereas control services decreased from 37.80 (SD ± 13.33) at baseline to 27.00 (SD ± 1.41) at follow-up. This difference was significant (p<0.02). There were no significant differences between groups in the number of occasions of fundamental movement skill development activity sessions (intervention +0.8 sessions, control +0.2 sessions), the number of times staff participated in active play (intervention +1.4 times, control -1.6 times); or the number of times staff provided positive statements about physical activity (intervention +1.7 times, control -10.4 times) (p=0.07 to 0.08). There was no significant difference between groups in nine other measures of policy and practice implementation including: total minutes of fundamental movement skill development activity sessions, number of times staff prompted physical activity, total minutes of television viewing, total minutes of seated time, and the number of physical activity promoting resources or equipment.

Dichotomous outcomes

The trial by Finch included two measures assessing the proportion of services implementing a policy or practice.[51,61] At follow-up there was no difference between groups in relation to the proportion of services that had a physical activity policy or had children seated for a period exceeding 30 minutes.

Subgroup analyses of strategies to improve implementation 'at scale'

Three trials sought to implement policies or practices 'at scale', defined as more than 50 services.[34,35,50] The randomised trial of multiple strategies to implement the NAP SACC programme by Ward and colleagues was conducted in 56 intervention services and reported significant improvements in total EPAO score among services receiving implementation support (MD 1.01, 95% CI 0.18 to 1.84).[35] A quasi-experimental trial of implementation support provided to more than 200 childcare services reported significant improvement, favouring the intervention group, in the proportion of intervention services with a physical activity policy (percentage change in telephone interview measure: intervention +28%, control +4%, $p<0.01$) with a physical activity policy that referred to limits on small screen recreation (percentage change in telephone interview measure: intervention +37%, control +5%, $p<0.01$) and with staff trained in physical activity (percentage change in telephone interview measure: intervention +47%, control +6%, $p<0.01$), but not eight other measures.[34] Across all 11 practices, the median improvement of intervention relative to control was 2.5% (range -4% to 41%). Similarly, Bell and colleagues found, relative to the services in the control group, significant increases among services receiving implementation support in the proportion of services providing only water and plain milk to children (non-sweetened drinks) and a number of measures of the proportion of service menus with foods consistent with dietary guidelines.[50] Across 10 such measures, however, the median effect was 9.5% (range 2% to 36%). An audit of menus revealed that intervention services had fewer high fat, salt or sugar, and processed meal items (intervention -0.9 items, control -0.2 items, $p=0.001$), fewer sweetened drinks (intervention -0.4 items,

control 0.1 items, $p<0.001$), and more servings of vegetables (intervention +1.0 serves, control +0.2 serves, $p<0.001$).

Table 3.2: Summary of findings for the main comparison

Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services	
Patient or population:	children up to the age of 6 years
Settings:	centre-based childcare services that cater for children prior to compulsory schooling
Intervention:	any strategy (including educational materials, educational meetings, audit and feedback, opinion leaders, small incentives or grants, educational outreach visits or academic detailing) with the primary intent of improving the implementation (by usual service staff) of policies, practices or programmes in centre-based childcare services to promote healthy eating, physical activity or prevent unhealthy weight gain
Comparison:	no intervention (8 studies) or alternate intervention (2 studies)

Outcomes	**Impact**	**No: of participants (studies)**	**Quality of the evidence (GRADE)**
Implementation of policies, practices or programmes that promote child healthy eating, physical activity and/ or obesity prevention	We are uncertain whether strategies improve the implementation of policies, practices or programmes that promote child healthy eating, physical activity and/ or obesity prevention	1053 participants (childcare services), 10 studies	⨁OOO **Very low**[a]
Childcare service staff knowledge, skills or attitudes related to the implementation of policies, practices or programmes that promote child healthy eating, physical activity	We are uncertain whether strategies to improve the implementation of policies, practices or programmes that promote child healthy eating, physical activity and/ or obesity prevention improve childcare service staff knowledge, skills or attitudes	457 participants (childcare service staff), 2 studies	⨁OOO **Very low**[a]
Cost or cost-effectiveness of strategies to improve the implementation of policies, practices or programmes in childcare services	No studies were found that looked at the cost or cost-effectiveness of strategies to improve the implementation of policies, practices or programmes in childcare services	Nil	N/A

Outcomes	Impact	No: of participants (studies)	Quality of the evidence (GRADE)
Adverse consequences of strategies to improve the implementation of policies, practices or programmes in childcare services	We are uncertain whether strategies to improve the implementation of policies, practices or programmes that promote child healthy eating, physical activity and/ or obesity prevention impact on adverse consequences	20 participants (childcare services), 1 study	⨁OOO **Very low**[b]
GRADE Working Group grades of evidence:			
High quality:	Further research is very unlikely to change our confidence in the estimate of effect.		
Moderate quality:	Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate		
Low quality:	Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate		
Very low quality:	We are very uncertain about the estimate		

[a] Triple downgraded due to limitations in the design, imprecision of evidence and unexplained heterogeneity

[b] Triple downgraded due to indirectness, inconsistency and imprecision of evidence

Table 3.3: Summary of intervention, measures and absolute intervention effect size in included studies

Study	Implementation strategies	Comparison group	Primary implementation outcome measures	Effect size
Alkon et al[46] 2014	Educational materials, educational meetings and audit and feedback	Usual practice	**Score:** Nutrition and physical activity policy quality using the CHPHSPC and nutrition and physical activity practices using the EPAO assessed via observation (5 measures)	**Median (range):**[d] 1.4 (0 to 4.29)
			% of staff or services implementing a practice: Foods offered to children assessed using the DOCC tool assessed via observation (10 measures)	**Median (range):** 0% (0% to 25%)[c]
Bell et al[50] 2014	Educational materials, educational meetings, audit and feedback, opinion leaders, and small incentives or grants	Usual practice	**% of staff or services implementing a practice:** Percentage of services implementing nutrition policies and practices and menus consistent with nutrition recommendations (10 measures)	**Median (range):** 9.5% (2% to 36%)
			Quantity of food served (servings/items): Mean number of items or servings of healthy/unhealthy foods on service menus (4 measures)	**Median (range):** 0.5 serves/items (-0.4 to 0.8)
Benjamin et al[47] 2007	Educational materials, educational meetings, and audit and feedback	Usual practice	**Score:** Nutrition, physical activity environments assessed via questionnaire (NAP SACC) completed by service managers (total score)	**Mean difference (95% CI)[d]:** 5.10 (-2.80 to 13.00)

Study	Implementation strategies	Comparison group	Primary implementation outcome measures	Effect size[a]
Finch et al[34] 2012	Educational materials, educational meetings, audit and feedback, opinion leaders and small incentives	Usual practice	**% of staff or services implementing a practice:** percentage of services implementing physical activity policies and practices (11 measures)	**Median (range):** 2.5% (-4% to 41%)
			Minutes of service or staff implementation of a policy of practice: time (hours/day) spent on structured physical activities (1 measure)	**Mean:** 6 minutes
Finch et al[51] 2014	Educational materials, educational meetings, audit and feedback, opinion leaders, and small incentives or grants	Usual practice	**Frequency of staff or service implementation of a practice:** occasions of implementation of fundamental movement skill activities, staff role modelling and verbal prompts and positive comments (4 measures)	**Median (range):** 2.6 (12.1 to 0.6)
			Minutes of service or staff implementation of a policy of practice (per session or day: minutes of fundamental movement skill activities, structured time, television viewing or seated time (4 measures)	**Median (range)[d]:** 4.3 minutes (-12 minutes to 39 minutes)
			% of staff or services implementing a practice: services with seated time >30 minutes or with an activity policy (2 measures)	**Median (range):** 5 (30 to -20)
			Mean number of resources or equipment per service: (3 measures)	**Median (range):** -01 (-0.6 to -0.1)

Study	Implementation strategies	Comparison group	Primary implementation outcome measures	Effect size[a]
Gosliner et al[48] 2010	Educational materials, educational meetings, education outreach visits or academic detailing with small incentives or grants with staff wellness programme.	Educational materials, education meetings, education outreach visits or academic detailing	**% of staff or services implementing a practice:** Provision of food items by staff 'more often' assessed via staff completed questionnaire (8 measures)	**Median (range):** 17% (0% to 23%)
Hardy et al[10] 2010	Educational materials, educational meetings, education outreach visits or academic detailing with small incentives or grants	Usual practice	**Frequency of staff or service implementation of a practice:** Frequency (per week or day) of structured or unstructured play, and of fundamental movement skill activities (3 measures)	**Median (range):** 0.2 (-0.9 to 1.9)
			Minutes of service or staff implementation of a policy of practice (per session or day: Minutes (per week or session) of structured and unstructured play or fundamental movement skills activities (3 measures)	**Median (range):** 7.7 minutes (6.5 minutes to 10.1 minutes)
			% of staff or services implementing a practice: Conduct of food based activities, development of new rules around food and drink bought from home, and the provision of health information to families (3 measures)	**Median (range)[d]:** 11% (-7% to 31%)
Johnston Molloy et al[52] 2013	Educational materials, manager and staff educational meetings and audit and feedback	Educational materials, manager educational meetings, and audit and feedback	**Score:** On the Health Promotion Evaluation Activity Scored Evaluation form assessed via observation (total score)	**Difference in median score:** -2[b]

Study	Implementation strategies	Comparison group	Primary implementation outcome measures	Effect size[a]
Ward et al[35] 2008	Educational materials, educational meetings, and audit and feedback	Usual practice	**Score:** Nutrition and physical activity practices using the EPAO assessed via observation (total score)	**Mean difference (95% CI)[d]:** 1.01 (0.18 to 1.84)
Williams et al[49] 2002	Educational materials, educational meetings, education outreach visits or academic detailing with small incentives or grants	Usual practice	**Quantity of food served (servings/grams):** Primary outcome grams of saturated fat assessed via menu audit (1 measure)	**Median (range):** 17% (0% to 23%)

[a] Effect size calculated first using the primary outcome (where a single primary outcome was reported);
otherwise using a total score (when total and subscale scores were provided);
otherwise using the median effect size across measures (where more than one outcome measure was reported and not specified as primary)
[b] Mean not reported. Represents the difference in median score between manager and staff trained versus manager only trained group.
[c] Effect size of measures reported as non-significant (but where data are not reported in manuscript) assumed to be '0'.
[d] Additional data obtained from study authors where unclear or missing.
CHPHSPC: Californian Childcare Health Programme Health and Safety Checklist;
DOCC: Diet Observation in Child care;
EPAO: Environment and Policy Assessment and Observation;
NAP SACC: Nutrition and physical Activity Self-Assessment for Child Care;

Secondary outcomes

Impact on childcare service staff knowledge, skills or attitudes

Two studies reported changes, relative to a comparator, in attitudes or knowledge of childcare service staff following multi-component interventions. First, surveys of service managers participating in the intervention trialled by Hardy and colleagues found no differences between groups in any of the seven items assessing staff attitudes regarding encouraging healthy eating or physical activity in children at care (p=0.07 to 0.39), or three items assessing staff knowledge of recommendations regarding child intake of fruit, vegetables or recreational screen time[10] (p=0.22 to 0.79). Second, a telephone interview of managers of services receiving the intervention in the study conducted by Finch and colleagues found a greater increase in the proportion of managers at intervention services knowing the recommendations for child participation in physical activity (from 14% at baseline to 21% at follow-up), compared to managers at control services (magnitude of increase not reported) (p<0.01), but not in knowledge of the recommendations for the maximum time preschool-aged children should spend in small screen recreation or being sedentary (effect sizes not reported) (p>0.05).[34]

Estimates of absolute costs or assessments of cost-effectiveness

None of the included studies reported on the costs or reported any cost analyses for the interventions.

Reported adverse consequences

One study explicitly assessed whether the intervention had unintended adverse effects. The study, by Finch and colleagues, compared the number of child injuries in the month prior to assessment among intervention and comparison childcare services as reported by childcare managers at baseline and follow-up.[51] The rate of injuries per month at intervention services at baseline was 0.18 (95% CI 0.09 to 0.27) and 0.17 (95% CI 0.08 to 0.27) at follow-up, and at control services was 0.12 (95% CI 0.04 to 0.20) at baseline and 0.11 (95% CI 0.03 to 0.19) at follow-up. This difference was not statistically significant (p=0.85).

Effects on child diet, physical activity or weight status

Diet

In the quasi-experimental trial comparing child education curricula and a one-day food service modification training for cooks with a child education curricula only control, Williams and colleagues assessed child dietary intake via direct observation during meal and snack periods.[49] The intervention was primarily focused on reducing total fat, saturated fat and energy. The trial found that during care, children attending intervention services consumed significantly less energy (-81.33 kcal), fat (-3.6 grams), saturated fat (-1.86 grams), as well as less fat as a percentage of energy (-4.48), and saturated fat as a percentage of energy (-2.87) relative to the control at the six-month follow-up (all p<0.001). At the 18-month follow-up, saturated fat (-2.56 grams) and fat as a percentage of energy (-10.92), and saturated fat as a percentage of energy (-5.15), remained significantly lower relative to the control group (p<0.001 to 0.01). The trial

also assessed changes in 13 other nutrients. Of these, intake of iron and magnesium were found to be higher among children in intervention services compared with control services at the 18-month follow-up.

Physical activity

In a randomised trial of a multi-component intervention to facilitate implementation of the NAP SACC programme, Alkon and colleagues found no significant changes in the intensity or type of physical activity of children in care as assessed by the Observation System for Recording Activity in Preschools (OSRAP) tool (effect sizes and p-value not reported).[46] There was, however, a non-significant decrease in the intervention group in the proportion of sedentary/quiet time, from 60% at baseline to 56% at follow-up, and a non-significant increase in the control group from 53% at baseline to 58% at follow-up (p-value not reported). In the randomised trial of a multi-component intervention of 20 childcare services by Finch and colleagues, there was no significant difference between groups at follow-up in the step counts per minute as assessed by pedometer.[51] Mean child step counts in the intervention group were 17.20 (95% CI 15.94 to 18.46) at baseline and 16.12 (95% CI 14.86 to 17.30) at follow-up, and in the control group were 13.78 (95% CI 12.76 to 14.80) at baseline and 13.87 (95% CI 12.57 to 15.17) at follow-up.

Weight status

Analyses of the impact of the intervention on centre-level child adiposity revealed a significant reduction in body mass index (BMI) z-score relative to the control group

(coefficient -0.26, standard error (SE) 0.1, *p*=0.02) in the trial by Alkon and colleagues.[46] The analyses were conducted in children who provided both baseline and follow-up data (n=209) and excluded extreme outliers. There were no significant changes within the intervention or control group in the proportion of children in the underweight, healthy weight, overweight or obese categories (*p*=0.22 to 1.00). Between-group comparisons for this measure were not reported.[46] An intervention focused on improving childcare menus by Williams and colleagues assessed change in child weight to height ratio at six-month follow-up. The trial found no significant intervention effect (f-value 1.18, p-value not reported).[49]

DISCUSSION

Summary of main results

This review sought to assess the impact of strategies to support the implementation of policies, practices or programmes to promote physical activity, healthy eating or prevent excessive weight gain among children in centre-based childcare services. The review identified just 10 trials, most of which were randomised controlled trials testing multi-component implementation support strategies. Collectively, the findings suggest that the impact of trialled strategies to facilitate implementation is equivocal. None of the included trials improved, relative to a comparison group, implementation of all of the targeted policies and practices. However, most trials reported a significant benefit of implementation support on at least one measure of policy or practice implementation.[10,34,46,48,49,50,51] The impact of such interventions on the knowledge or

attitudes of childcare service staff, or on the diet, physical activity or weight status of children was also equivocal in the few trials that reported such outcomes.

There were a number of challenges in conducting and synthesising the findings of included studies. There was considerable heterogeneity in the policies and practices targeted, interventions tested, measures used and outcomes reported among included trials. Such heterogeneity precluded meta-analysis and quantitative exploration of heterogeneity and potential effect modifiers. The degree of clinical and methodological heterogeneity also presented challenges for the narrative synthesis. The 10 included trials reported the effects of six types of implementation strategy, often targeting different nutrition, physical activity or obesity prevention policies and practices, and using different measures of implementation. Classification of implementation strategies was also difficult. The Cochrane Effective Practice and Organisation of Care (EPOC) Group taxonomy has been developed to describe strategies to improve implementation or professional practice of health services or practitioners, which were often not relevant for the childcare setting.[23] Other strategies employed by included trials to facilitate implementation, such as provision of small incentives such as lotteries or wellness initiatives, did not fit with the current EPOC taxonomy descriptors. To address such issues we included full descriptions of trials, study context and implementation strategies, and reported median and range of effects of included studies. A revision of the EPOC taxonomy and descriptors to align more with the implementation strategies used in non-clinical settings may improve EPOC strategy coverage and facilitate classification for studies undertaken in childcare

and other community settings. Interpretation of the findings therefore represents a considerable challenge.

Among the studies targeting childcare healthy eating or nutrition policies and practices, improvements were often reported on measures of food provision by childcare service staff. For example, relative to control services, implementation of the majority of practices pertaining to the types of foods served to children were reported in the multi-component intervention conducted by Bell and colleagues,[50] and the staff wellness programme conducted by Gosliner and colleagues.[48] Significant effects were also reported for measures of food energy and fat (the primary macronutrients targeted by the intervention) following a one-day workshop for cooks and ongoing support from a registered dietitian in the study by Williams and colleagues.[49] Similarly, within-group improvements were reported on all measures of food provision among both implementation training support strategies trialled by Johnston Molloy and colleagues.[52] Childcare services may be particularly amenable to making changes to improve food provision given that in most jurisdictions providing food consistent with nutrition guidelines is required under service licensing and accreditation standards, as food provision is typically the primary responsibility of a single staff member[62] (i.e. the service cook), and given strong interest among staff to provide healthy foods to children.[63,64] Furthermore, commonly identified barriers to provision of healthy foods by services typically pertain to the limited knowledge and skills of cooks,[62,65,66] with it being suggested such barriers can be overcome through training.[26] The findings of this review suggest that the multi-component interventions targeting food service

provision, many of which included implementation support focusing on professional development and training of cooks, may have successfully overcome such reported barriers. In contrast, improvements were not consistently reported on other measures of healthy eating or physical activity policy or practice implementation. Support from childcare executive committees, the service manager or parents,[25] as well as staff members' own healthy eating or physical activity behaviours, self-efficacy in facilitating healthy eating or physical activity, and negative staff attitudes,[62,67,68,] have all been identified as impediments to implementing healthy eating or physical activity-promoting policies and practices. Furthermore, for the implementation of physical activity policies, practices and programmes in particular, structural barriers, such as a preference for child-directed rather than teacher-led structured physical activity by childcare service staff, a lack of space, inclement weather or lack of broader policy framework,[67,68] have been noted as implementation barriers. Such a complex range of potential determinants to implementation in this setting may require carefully considered and targeted support strategies in order for them to be overcome. Only three of the included studies examined the impact of interventions on measures of child nutrition, physical activity or adiposity, and effects were mixed. Improvements in both the implementation of nutrition practices regarding food service and in child diet were reported following the multi-component intervention conducted by Williams and colleagues.[49] However, the multi-component support provided in the trial by Finch and colleagues did not improve child physical activity while in care,[51] nor did intensive implementation support strategies to facilitate implementation of the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) programme.[46] Such

findings are likely to reflect limited improvements in the implementation of physical activity practices for both trials. Providing intensive implementation support did, however, reduce child body mass index (BMI) z-score in the evaluation of the NAP SACC programme conducted by Alkon and colleagues.[46] Such a finding was surprising given that improvements in healthy eating and physical activity policies, but not practices, were reported. Potentially, the implementation support may have facilitated the implementation of other obesity prevention practices by staff of intervention childcare services, or in the home. Further research is warranted to assess such effects in future trials.

Overall completeness and applicability of evidence

Six of the 10 included trials were conducted by two research groups in the US and Australia.[34,35,46,47,50,51] Furthermore, all of the included studies were conducted in high income countries. The applicability of study findings to lower- and middle-income countries, where the operational, philosophical and cultural contexts may differ substantially, is unknown.[69] Future research, conducted by a greater range of research groups in different research contexts, would strengthen the applicability of the evidence-base.

Quality of the evidence

The overall rating of the quality of the body of evidence reported in this review across all GRADE domains was very low, suggesting that the effects of interventions reported

in the review may differ from the true effects. 'Risk of bias' assessments identified a number of limitations of the existing trials, particularly among the non-randomised designs. Risk of performance bias (due to lack of blinding of participants or personnel), detection bias (due to use of self-assessment measures in some studies) and reporting bias (due to a lack of prospective registration or published trial protocols) were particularly prevalent among included studies. The comparison groups used limited the directness of the assembled evidence. A number of studies included comparison groups that included some active implementation support,[52] or 'usual' implementation support,[34,50] which may not have been well defined. Finally, there are concerns regarding the precision of the estimates of included studies for the primary outcomes of this review. Most studies included samples of fewer than 15 services per trial arm, which is likely to be insufficient to detect small but meaningful effects. Similarly, seven of the 10 trials included a measure of implementation as the primary trial outcome,[34,35,46,47,48,50,52] but only one of these performed a sample size calculation to justify the included sample.[34] As trial data could not be pooled in meta-analysis, under-powering of individual studies in this review may mask important effects.

Potential biases in the review process

The review included a comprehensive search strategy for peer-reviewed and grey literature and examined over 6000 citations. We also sought relevant studies from screening of the citations of included studies, and from contact with experts in the field. While the search strategy was rigorous, as a field in which terminology for

implementation constructs are developing, it is possible that not all studies that report implementation outcomes were identified. For example, it has been estimated that 15% of studies use implementation strategies that cannot be classified using implementation taxonomies.[70] Potentially relevant studies may have been missed based on the implementation strategy search terms used in this review. However, a previous review conducted by the Agency for Healthcare Research and Quality failed to identify any studies of implementation strategies targeting healthy eating and physical activity in the childcare setting,[36] and contact with other experts in the field did not yield any additional studies to those identified in the primary search. Such findings provide some evidence to suggest that the search strategy may have provided reasonable coverage of the relevant literature. Nonetheless, we will assess the appropriateness of search terms in future updates of the review to ensure that the search terms are inclusive of relevant implementation terminology and newly released taxonomies. The method for describing effects across studies may have also introduced bias. In instances where a primary implementation outcome was not identified in the included trials we utilised a median effect size across implementation outcomes. Such analyses are inconsiderate of the robustness of individual measures, and may mask important effects on single implementation outcomes. Consideration of the narrative description of each trial included in the review is therefore important when interpreting trial findings.

Agreements and disagreements with other studies or reviews

Contextualising the findings of the review with those conducted previously is difficult given that few reviews have examined the effectiveness of implementation strategies in community settings. A comprehensive review conducted in 2008 identified just one study in the childcare setting, which targeted the implementation of policies and practices to reduce the risk of skin cancer.[36] The review found mixed evidence of the effectiveness of strategies to support implementation of health promotion policies and practices in other settings, such as schools and sporting clubs: findings that are similar to the conclusions of this review.[36] In healthcare settings, systematic reviews have found that multi-component implementation strategies may not be more effective than single component strategies.[71] However, small positive improvements in implementation or professional practice have been found in large systematic reviews of strategies including audit and feedback,[27] training,[30] and academic detailing.[31] More trials are required in the childcare setting to determine if such strategies are similarly effective in this setting.

AUTHORS' CONCLUSIONS

Implications for practice

The review highlights how little guidance is available for policy makers and practitioners interested in supporting the implementation of healthy eating, physical activity or obesity prevention policies, practices and programmes in centre-based childcare services. Collectively, the findings suggest that implementation strategies can

have a positive impact, albeit limited, on the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes in this setting. With a small number of trials to date and in the absence of high-quality evidence, formative work to achieve a comprehensive understanding of the setting, context and barriers to implementation, and careful selection of support strategies to address these, may be particularly important for practitioners to maximise the potential for successful implementation.[72]

Implications for research

The findings of this review suggest that there is considerable scope to improve the evidence-base to guide future efforts to support the implementation of healthy eating, physical activity and obesity prevention programmes in centre-based childcare services. The limited number of trials is surprising given the large numbers of trials testing interventions to improve healthy eating, physical activity or obesity prevention in recent systematic reviews in this setting.[73,74,75] The findings confirm bibliographic studies that indicate that trials examining the effects of strategies to implement evidence-based programmes or polices represent a fraction of public health research trials.[76,77,78] Greater investment in research, and research infrastructure to support trials to improve dissemination and implementation of effective childcare-based interventions, is therefore warranted.[79] Additionally, the review identified a number of ongoing studies in the area, which will further contribute to the evidence base (Appendix 3.3).

In many instances the trials included in the review had small samples,[10,46,47,48,49,51] which may be unable to detect important improvements in policy or practice, or they used self-reported measures of implementation. The cost of practice improvements was not assessed in any included trials and few trials assessed the impact of interventions on child health behaviours or weight status.[46,49,51] Comprehensive evaluations of future efforts to improve the implementation of health-promoting initiatives targeting excessive weight gain or its determinants in this setting are required to address the limitations identified within the existing evidence-base. The use of hybrid designs in future trials, in which implementation outcomes as well as impacts on health behaviours or weight status have been recommended, is one means of achieving this.[84]

With a few exceptions, most included studies developed implementation support strategies without the aid of relevant theory or theoretical frameworks.[10,34,46,48,49,52] Perhaps unsurprisingly, the range of strategies employed, as described in the EPOC taxonomy, was relatively limited by the included studies, and focused often on one-off training or resource provision. The factors that influence policy or practice implementation are typically complex. Improvements in implementation may require ongoing changes to systems and processes rather than fixed, discrete support. However, none of the trials included strategies to address other fiscal, political, regulatory or governance factors that could potentially influence the success of implementation efforts. The use of comprehensive theoretical frameworks could assist

in considering a broad range of implementation barriers and designing appropriate support strategies to address these.[24,85]

Further, given that the impact of current implementation support strategies appears equivocal, future theoretically informed research to identify the mechanism by which support strategies may facilitate implementation would be of particular value to guide future strategy design. The Theoretical Domains Framework is supported by documented processes to identify impediments to implementation, selection of support strategies to overcome such barriers, and validated instruments to assess implementation constructs.[26,76] The framework has been successfully applied in clinical settings to improve professional practice.[85,86] Application of implementation specific frameworks such as the Theoretical Domains Framework in the childcare setting seems warranted to examine whether this improves the impact of implementation interventions in this setting. Furthermore, adaptation and revalidation of tools to assess implementation constructs in future trials in the setting would provide valuable insights into mechanisms of effect to progress the field.

REFERENCES

1 Finucane MM, Stevens GA, Cowan MJ, Danaei G, Lin JK, Paciorek CJ, et al. National, regional, and global trends in body-mass index since 1980: systematic analysis of health examination surveys and epidemiological studies with 960 country-years and 9.1 million participants. *Lancet*. 2011;377:557-67.

2 Lobstein T, Baur L, Uauy R for the IASO International Obesity Taskforce. Obesity in children and young people: a crisis in public health. *Obesity Reviews*. 2004;5(suppl 1):4-104.

3 Swinburn BA, Sacks G, Hall KD, McPherson K, Finegood DT, Moddie ML, et al. The global drivers and local environments. *Lancet*. 2011:378(9793):804-14.

4 Black RE, Victoria CG, Walker SP, Bhutta ZA, Christian P, De Onis M, et al. Maternal and Child Nutrition Study Group. Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*. 2013;382(9890):427-51.

5 Wang YC, McPherson K, Marsh T, Gortmaker SL, Brown M. Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet.* 2011;378:815-25.

6 Gray V, Holman CDJ. Deaths and premature loss of life caused by overweight and obesity in Australian in 2011-2050: benefits from didfferent intervention scenarios. Report for the Australian Preventive Health Taskforce. Commonwealth of Australia, 2009.

7 World Health Organization. Population based approaches to childhood obesity prevention. Geneva, Switzerland, World Health Organization, 2012. http://apps.who.int/iris/bitstream/10665/80149/1/9789241504782_eng.pdf?ua=1

8 Adams J, Zask A,Dietrich U. Tooty Fruity Vegie in Preschools: an obesity prevention intervention in preschools targeting children's movement skills and eating behaviours. *Health Promotion Journal of Australia.* 2009;20:112-9.

9 De Silva-Sanigorski A, Kremer P, Elea D, Boak R, Swinburn B. Romp & Chomp: Improving young children's eating and activity behaviours through an enviornmental intervention in family day care. *Obesity Reviews.* 2010:11:59.

10 Hardy LL, King L, Kelly B, Farrell L, Howlett S. Munch and Move: evaluation of a preschool healthy eating and movement skill program. *International Journal of Behavioral Nutrition and Physical Activity.* 2010;7(80):1-11. doi: 10.1186/1479-5868-7-80.

11 Trost SG, Fees B, Dzewaltowski D. Feasibility and efficacy of a "Move and Learn' physical activity curriculum in preschool children. *Journal of Physcial Activity and Health.* 2008;5(1):88.

12 Commonwealth of Australia. Get Up and Grow Healthy Eating and Physical Acitity for Early Childhood. Canberra, Australia, Commonweath of Australia, 2013. http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-gug-staffcarers

13 McWilliams C, Ball SC, Benjamin SE, Hales D, Vaughn A, Ward DS. Best-practice guidelines for physical activity at childcare. *Pediatrics*. 2009;124:1650-9.

14 Tremblay L, Boudreau-Lariviere C, Cimon-Lambert K. Promoting physical activity in pre-schoolers: a review of the guidelines, barriers, and facilitators for implementation of policies and practices. *Canadian Psychology* 2012;53(4): 280-90.

15 Story M, Kaphingst K, Fench S. The role of child care settings in obesity prevention. *Future of Children.* 2006;16(1):143-68.

16 Ball SC, Benjamin SE, Ward DS. Dietary intakes in North Carolina child-care centers: are children meeting current recommendations. *Journal of the American Dietetic Association*. 2008;108(4):718-21.

17 Yoong SL, Skelton E, Jones J, Wolfenden L. Do childcare services provide foods in line with the 2013 Australian Dietary guidelines? A cross-sectional study. *Australian and New Zealand Journal of Public Health.* 2014;38(6):595-6.

18 Sisson S, Campbell JE, May KB, Brittain DR, Monrie LA, Guss SH, et al. Assessment of food, nutrition, and physical activity practices in Oklahoma child-care centers. *Journal of the Academy of Nutrition and Dietetics.* 2012;112:1230-40.

19 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell AC, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child Health.* 2010;47:73-6.

20 Kelly B, Hardy LL, Howlett S, King L, Farrell L, Hattersley L. Opening up Australian preschoolers' lunchboxes. *Australian and New Zealand Journal of Public Health.* 2010;34:288-92.

21 Glasgow RE, Vinson C, Chambers D, Khoury MJ,Kaplan RM, Hunter C. National Institutes of Health approaches to dissemination and implementation science; current and future directions. *American Journal of Public Health*. 2012; 107(7):1274-81.

22 Schillinger D. An introduction to effectiveness, dissemination and implementation research. In: Fleisher P, Goldstein E editor(s). *UCSF Clinical and Translational Science Institute (CTSI) Resource Manuals and Guides to Community-Engaged Research.* San Francisco: Clinical Translational Science Institute Community Engagement Program, University of California, 2010.

23 Effective Practice, Orgnaisation of Care (EPOC). EPOC Taxonomy. 2015. https://epoc.cochrane.org/epoc-taxonomy

24 Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation sicence. *Implementation Science.* 2009;4(1):50

25 Wolfenden L, Finch M, Nathan N, Weaver N, Wiggers J, Yoong SL, et al. Factors associated with early childhood education and care service implementation of healthy eating and physical activity policies and practices in Australia: a cross-sectional study. *Translational Behavioural Medicine*. 2015;5(3):327-34

26 Michie S, Johnston M, Francis J, Hardeman W, Eccles M. From theory to intervention: mapping theoretically derived behavioural determinants to behaviour change techniques. *Applied Psychology*. 2008;57(4):660-80.

27 Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, et al. Audit and feedback effects on professional practice and healthcare outomces. *Cochrane Database of Systematic Reviews.* 2012; Issue 6. doi: 10.1002/14651858.CD000259.pub.

28 Giguère A, Lègarè F, Grimshaw J, Turcotte S, Fiander M, Gruedniewicz A, et al. Printed educational materials: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews.* 2012; Issue 10. doi: 10.1002/14651858.CD004398.pub3

29 Arditi C, Rège-Walther M, Wyatt JC, Durieux P, Burnand B. Computer-generated reminders delivered on paper to healthcare professionals; effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews.* 2012; Issue 12. doi: 10.1002/14651858.CD001175.pub3.

30 Forsetlund L, Bjørndal A, Rashidian A, Jamtvedt G, O'Brien MA, Wolf FM, et al. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews.* 2009; Issue 2. doi: 10.1002/14651858. CD003030.pub2.

31 O'Brien MA, Rogers S, Jamtvedt G, Oxman AD, Odgaard-Jensen J, Kristoffersen DT, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database of Systematic reviews*. 2007; Issue 4. doi: 10.1002/14651858.CD000409.pub2.

32 Scott A, Sivey P, Ait Ouakrim D, Willenberg L, Naccarella L, Furler J, et al. The effect of financial incentives on the quality of health care provided by primary care physicians. *Cochrane Database of Systematic Reviews.* 2011; Issue 9. doi: 10.1002/14651858.CD008451.pub2.

33 Buller DB. Continuing issues for dissemination and implementation of cancer prevention interventions. *American Journal of Preventive Medicine.* 2010; 38(4):462-3.

34 Finch M, Wolfenden, Falkiner M, Edenden D, Pond N, Hardy LL, et al. Impact of a population based intervention to increase the adoption of multiple physical activity practices in centre based childcare services: a quasi experimental, effectivness study. *International Journal of Behavioural Nutrition and Physical Activity*. 2012;9(101):1-13. doi: 10.1186/1479-5868-9-101.

35 Ward DS, Benjamin SE, Ammerman AS, Ball SC, Neelon BH, Bangdiwala SI. Nutrition and physical activity in child care. Results from an environmental intervention. *American Journal of Preventive Medicine.* 2008;35(4):352-6. doi:10.1016/j.amepre.2008.06.030.

36 Rabin BA, Galsgow RE, Kerner JF, Klump MP, Brownson RC. Dissemination and implementation research on community-based cancer prevention. *American Journal of Preventive Medicine.* 2010;38(4):443-56.

37 Agency for Healthcare Research and Quality. Diffusion and dissemination of evidence-based cancer control interventions. Agency for Healthcare Research and Quality, 2003.

38 Zoritch B, Roberts I, Oakley A. Day care for pre-school children. *Cochrane Database of Systematic Reviews.* 2000; Issue 3. doi: 10.1002/14651858.CD000564.

39 Dobbins M, Husson H, DeCorby K, LaRocca RL. Schoolbased physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. *Cochrane Database of Systematic Reviews.* 2013; Issue 2. doi: 10.1002/14651858.CD007651.pub2

40 Jamie PC, Lock K. Do school based food and nutrition policies improve diet and reduce obesity? *Preventive Medicine.* 2009;48(1):45-53

41 Waters E, De Silva-Sanigorski A, Burford BJ, Brown T, Campbell KJ, Gao Y, et al. Interventions for preventing obesity in children. *Cochrane Database of Systematic Reviews.* 2011; Issue 12. doi: 10.1002/14651858.CD001871.pub3.

42 Rabin BA, Brownson RC, Haire-Joshu D, Kreuter MW, Weaver NL. A glossary for dissemination and implementation research in health. *Journal of Public Health Management Practice.* 2008;14(2):117-23.

43 Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. *The Cochrane Collaboration.* 2011. Available from www.cochrane-handbook.org.

44 Cochrane Public Health Group. Guide for Developing a Cochrane Protocol. http://ph.cochrane.org/sites/ph.cochrane.org/files/public/uploads/Guide%20for%20PH%20protocol_Nov%202011_final%20for%20website.pdf

45 Guyatt GH, Oxman AD, Schünemann HJ, Tugwell P, Knotterus A. GRADE guidelines: a new series of articles in the Journal of Clinical Epidemiology. *Journal of Clinical Epidemiology*. 2010;Dec 24 [Epub ahead of print].

46 Alkon A, Crowley AA, Bejamin Neelon SE, Hill S, Pan Y, Nguyen V, et al. Nurtition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. *BMC Public Health*. 2014;14(215):1-13. doi: 10.1186/1471-2458-14-215.

47 Benjamin SE, Ammerman A, Sommers J, Dodds J, Neelon B, Ward DS. Nutrition and physical activity self-assessment for child care (NAP SACC): results from a pilot intervention. *Journal of Nutrition Education and Behavior*. 2017;39(3):142-9. doi: 10.1016/j.jneb.2006.08/027.

48 Gosliner WA, James P, Yancey AK, Ritchie L, Studer N, Crawford PB. Impact of a worksite wellness program on the nutrition and physical activity environment of child care centers. *American Journal of Health Promotion*. 2010;24(3): 186-9. doi: 10.4278/ajhp.080227l9.

49 Williams CL, Bollela MC, Strobino BA, Spark A, Nicklas TA, Tolosi LB, et al. “Healthy-Start”: outcome of an intervention to promote a heart healthy diet in preschool children. *Journal of the American College of Nutrition*. 2002;21(1):62-71. doi: 10.1080/07315724.2002.10719195.

50 Bell AC, Davies L, Finch M, Wolfenden L, Francis JL, Sutherland R, et al. An implementation intervention to encourage healthy eating in centre-based child-care services: impact of the Good for Kids Good for Life programme. *Public Health Nutrition*. 2014;18(9):1610-9. doi: 10.1017/S1368980013003364.

51 Finch M, Wolfenden L, Morgan PJ, Freund M, Jones J, Wiggers J. A cluster randomized trial of a multi-level intervention, delivered by service staff, to increase physical activity of children attending center-based childcare. *Preventive Medicine.* 2014;58:9-16. doi 10.1016/j.ypmed.2013.10.004.

52 Johnston Molloy C, Kearney J, Hayes N, Glennon Slattery C, Corish C. Pre-school manager training: a cost-effective tool to promote nutrition and health-related practice improvements in the Irsh full day-care pre-school setting. *Public Health Nutrition.* 2013;18(9):1554-64. doi: 10.1186/1479-5868-7-80.

53 Korwanich K, Sheiham A, Srisuphan W, Srisilapanan P. Promoting healthy eating in nursery school childre: a quasi-experimental intervention study. *Health Education Journal*. 2008;67(1):16-30. doi: 10.1177/0017896907083153.

54 De Silva-Sanigorski A, Bell AC, Kremer P, Park J, Demajo L, Smith M, et al. Process and impact evaluation of the Romp & Chomp obesity prevention intervention in early childhood settings: lessons learned from implementation in preschools and long day care settings. *Childhood Obesity*. 2012;8(3):205-15. doi: 10.1089/chi.2011.0118.

55 Ammerman AS, Ward DS, Benjamin SE, Ball SC, Sommers JK, Molloy M, et al. An intervention to promote healthy weight: nutrition and physical activity self-assessment for child care (NAP SACC) theory and design. *Preventing Chronic Disease.* 2007;4(3):1-12.

56 Bollella MC, Boccia LA, Nicklas TA, Lefkowitz K, Pittman BP, Zand EA, et al. Assessing dietary intake in preschool children. the Healthy Start project - New York. *Nutrition Research.* 1998;19(1):37-48.

57 D'Agostino C, D'Andrea T, Lieberman L, Sprance L, Williams CL. Healthy Start: a new comprehensive preschool health education program. *Journal of Health Education.* 1999:30(1):9-12.

58 Spark A, Pfau J, Nicklas TA, Williams CL. Reducing fat in preschool meals: description of the foodservice intervention component of Healthy Stat. *Journal of Nutrition Education.* 1998;30(3):170-7.

59 Williams CL, Squillace MM, Bollela MC, Brotanek J, Campanaro L, D'Agostino C, et al. Healthy Start: a comprehensive health education program for preschool children. *Preventive Medicine*. 1998;27:216-23.

60 Williams CL, Strobino BA, Bollela M, Brotanek J. Cardiovascular risk reduction in preschool children: the "Healthy Start" project. *Journal of the American College of Nutrition.* 2004;23(2):117-23. doi: 10.1080/07315724.2004.10719351.

61 Finch M, Wolfenden L, Morgan PJ, Freund M, Wyse R, Wiggers J. A cluster randomised trial to evaluate a physical activity intervention among 3-5 year old children attending long day care services: study protocol. *BMC Public Health*. 2010;10(534):1-10. doi: 10.1186/1471-2458-10-534.

62 Froehlich Chow A, Humbert L. Physical activity and nutrition in early years care centers: barriers and facilitators. *Canadian Children.* 2011;36(1):26-30

63 Derscheid LE, Umoren J, Kim S, Henry BW, Zittel LL. Early childhood teachers' and staff members' perceptions of nutrition and physical activity practices for preschoolers. *Journal of Research in Childhood Education.* 2010;24(3):248-65. doi: 10.1080/02568543.2010.487405.

64 Pagnini D, Wilkenfield R, King L, Booth M, Booth S. Early childhood sector staff perceptions of child overweight and obesity: the Weight of Opinion Study. *Health Promotion Journal of Australia.* 2007;18(2):149-54

65 Moore H, Nelson P, Marshall J, Cooper M, Zambas H, Brewster K, et al. Laying foundations for health: food provision for under 5s in day care. *Appetite.* 2005;44(2):207-13.

66 Pollard CM, Lewis JM, Miller MR. Food service in long day care centres - an opportunity for public health intervention. *Australian and New Zealand Journal of Public Health.* 1999;23:606-11.

67 Cashmore AW, Jones SC. Growing up active: a study into physical acivity in long day care centers. *Journal of Research in Childhood Education*. 2008;12:179-91. doi: 10.1080/02568540809594654.

68 Copeland KA, Kendeigh CA, Saelens BE, Kalkwarf JH, Sherman SN. Physical activity in childcare centers: do teachers hold the key to the playground? *Health Education Research.* 2012;27(1):81-100.

69 Rosemburg F. Multilateral organizations and early child care and education policies for developing countries. *Gender and Society.* 2003;17(2):250-66 doi: 10.1177/0891243202250831.

70 Mazz D, Bairstow P, Buchan H, Paubrey Chakraborty S, Van Hecke O, Grech C, et al. Refining a taxonomy for guideline implementation: results of an exercise in abstract classification. *Implementation Science*. 2013;8(32):1-10. doi: 10.1186/1748-5908-8-32

71 Squires JE, Sullivan K, Eccles MP, Worswick J, Grimshaw JM. Are multifaceted interventions more effective than single component interventions in changing health care professionals' behaviours? An overview of systematic reviews. *Implementation Science*. 2014;9(1):1.

72 French SD, Green SE, O'Connor DA, McKenzie JE, Francis JJ, Michie S, et al. Developing theory informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domaines Framework. *Implementation Science* 2012;7(1):1-8. doi: 10.1186/1748-5908-7-38

73 Finch M, Jones J, Yoong S, Wiggers J, Wolfenden L. Effectiveness of centre-based childcare interventions in increasing child physical activity: a systematic review and meta-analysis for policy makers and practitioners. *Obesity Reviews*. 2016;17(5):412-28.

74 Mikkelsen MV, Husby S, Skov LR, Perez-Cueto FJ. A systematic review of types of healthy eating interventions in preschools. *Nutrition Journal.* 2014;13(1):1.

75 Sisson SB, Krampe M, Anundson K, Castle S. Obesity prevention and obesogenic behaviour interventions in child care: a systematic review. *Preventive Medicine.* 2016;87:57-69.

76 Wolfenden L, Milat AJ, Lecathelinais C, Sanson-Fisher RW, Care ML, Bryant J, et al. What is generated and what is used: a description of public health research output and citation. *European Journal of Public Health.* 2016;26(3):523-5

77 Wolfenden L, Milat AJ, Lecathelinais C, Skelton E, Clinton-McHarg T, Williams C, et al. A bibliographic review of public health dissemination and implementation research output and citation rates. *Preventive Medicine Reports.* 2016;4:441-3.

78 Yoong SL, Clinton-McHarg T, Wolfenden L. Systematic reviews examining implementation of research into practice and impact on population health are needed. *Journal of Clinical Epidemiology.* 2015;68(7):788-91.

79 Wolfenden L, Finch M, Wyse R, Clinton-McHarg T, Yoong SL. Time to focus on implementation: the need to reorient research on physical activity in childcare services. *Australian and New Zealand Journal of Public Health.* 2016;40(3):209-10.

80 Duke University. Baby NAP SACC Intervention Study. https://clinicaltrials.gov/ct2/show/NCT01890681?term=childcare&rank=15.

81 Finch M, Yoong SL, Thomson RJ, Seward K, Cooney M, Jones J, et al. A pragmatic randomised controlled trial of an implementation intervention to increase healthy eating and physical activity promoting policies, and practices in centre based childcare services: study protocol. *BMJ Open*. 2015;5(5):e006706.

82 Jones J, Wolfenden L, Wyse R, Finch M, Yoong SL, Dodds P, et al. A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services. *BMJ Open.* 2014;4(4):e005312

83 Université de Sherbrooke. Healthy Start to increase physical activity and improve healthy eating in early childcare centres.

https://clinicaltrials.gov/show/NCT02375490/.

84 Cohen AN, Hamilton AB, Ritchie M, Mittman BS, Kirchner JE, Wyatt GE, et al. Improving care quality through hybrid implementation/effectiveness studies: best practices in design, methods, and measures. *Implementation Science.* 2015;10 Suppl 1(A29):1-3. doi: 10.1186/1748-5908-10-S1-A29

85 Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science.* 2012;7:1-17. doi: 10.1186/1748-5908-7-37

86 Phillips CJ, Marshall AP, Chaves NJ, Jankelowitz SK, Lin IB, Loy CT, et al. Experiences of using the Theoretical Domains Framework across diverse clinical environments: a qualitative study. *Journal of Multidisciplinary Healthcare.* 2015;8:139-46.

87 Adamo KB, Barrowman N, Naylor PJ, Yaya S, Harvey A Grattan KP, et al. Activity Begins in Childhood (ABC) - inspiring healthy active behaviour in preschoolers: study protocol for a cluster randomized controlled trial. *Trials.* 2014;15(305):1–12. doi: 10.1186/1745-6215-15-305

88 Adams AK, LaRowe TL, Cronin KA, Prince RJ, Wubben DP, Parker T, et al. The Healthy Children, Strong Families intervention: design and community participation. *Journal of Primary Prevention.* 2012;33(4):175–85. doi: 10.1007/ s10935-012-0275-y

89 Agrawal T, Hoffman JA, Ahl M, Bhaumik U, Healey C, Carter S, et al. Collaborating for impact: a multilevel early childhood obesity prevention initiative. *Family and Community Health.* 2012;35(3):192-202.

90 Alhassan S, Nwaokelemeh O, Lyden K, Goldsby T, Mendoza A. A pilot study to examine the effect of additional structured outdoor playtime on preschoolers' physical activity levels. *Child Care in Practice.* 2013;19(1):23-35.

91 Alhassan S, Whitt-Glover MC. Intervention fidelity in a teacher-led program to promote physical activity in preschool-age children. *Preventive Medicin.e* 2014;69:S34–6.

92 Androutsos O, Apostolidou E, Iotova V, Socha P, Birnbaum J, Moreno L, et al. Process evaluation design and tools used in a kindergarten-based, family-involved intervention to prevent obesity in early childhood. The ToyBox-study. *Obesity Review.s* 2014;15(S3):74-80.

93 Antoine B, Jerome B, Susi K, Pedro MV, Tanja K, Jardena P. Effects of a physical activity intervention in children attending child care (youp'la bouge program): a cluster- randomized controlled trial. *Obesity Facts.* 2012;5:55-79.

94 Bammann K, Peplies J, Pigeot I, Ahrens W. IDEFICS: A multicenter European project on diet- and lifestyle- related disorders in children. *Medizinische Klinik (Munich, Germany: 1983.)* 2007;102(3):230-5.

95 Battista RA, Oakley H, Weddell MS, Mudd LM, Greene JB, West ST. Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. *Preventive Medicin.e* 2014;67:S10–6.

96 Bellows LL. Development and Evaluation of Food Friends get Movin' with Mighty Moves (TM), a Physical Activity Program to Prevent Obesity in Low-income Preschoolers. Colorado State University: Fort Collins, CO, 2007.

97 Bellows LL, Johnson SL, Davies PL, Anderson J, Gavin WJ, Boles RE. The Colorado LEAP study: rationale and design of a study to assess the short term longitudinal effectiveness of a preschool nutrition and physical activity program. *BMC Public Health.* 2013;13:1146.

98 Benjamin SE, Tate DF, Bangdiwala SI, Neelon BH, Ammerman AS, Dodds JM, et al. Preparing child care health consultants to address childhood overweight: a randomized controlled trial comparing web to in-person training. *Maternal and Child Health Journal.* 2008;12:662-9.

99 Bisceglie R. Improving academics through better school health practices encouraging good nutrition and physical activity at school. *NASN School Nurse.* 2010;25(5):226-8.

100 Bonis M, Loftin M, Ward D, Tseng TS, Clesi A, Sothern M. Improving physical activity in daycare interventions. *Childhood Obesity.* 2014;10:334-41.

101 Bryars T, Mouttapa M, McMahan S, Park TS. Results of a school-based obesity prevention program targeting early childhood students. *Californian Journal of Health Promotion.* 2012;10:91-102.

102 Buscemi J, Odoms-Young A, Stolley ML, Blumstein L, Schiffer L, Berbaum ML, et al. Adaptation and dissemination of an evidence-based obesity prevention intervention: design of a comparative effectiveness trial. *Contemporary Clinical Trials,* 2014;38:355–60.

103 Carpenter L, De Silva-Sanigorski A, Prosser L, Honisett S, Gibbs L, Swinburn B, et al. The impacts of the Kid's - 'Go for your life' obesity prevention program in Australian preschools. *Obesity Research and Clinical Practice.* 2010;4:S70.

104 Céspedes J, Briceño G, Farkouh ME, Vedanthan R, Baxter J, Leal M, et al. Targeting preschool children to promote cardiovascular health: cluster randomized trial. *American Journal of Medicine.* 2013;126(1):27-35.

105 Crowley AA, Kulikowich JM. Impact of training on child care health consultant knowledge and practice. *Pediatric Nursing.* 2009;35(2):93.

106 D'agostino C, D'andrea T, Nix ST, Williams CL. Increasing nutrition knowledge in preschool children: the Healthy Start project, year 1. *Journal of Health Education.* 1999;30(4):217-21.

107 Davis SM, Sanders SG, FitzGerald CA, Keane PC, Canaca GF, Volker-Rector R. CHILE: an evidence-based preschool intervention for obesity prevention in Head Start. *Journal of School Health.* 2013;83:223-9.

108 De Bock F, Genser B, Raat H, Fischer JE, Renz-Polster H. A participatory physical activity intervention in preschools: a cluster randomized controlled trial. *American Journal of Preventive Medicine.* 2013;45:64-74.

109 De Craemer M, De Decker E, Verloigne M, De Bourdeaudhuij I, Manios Y, Cardon G. The effect of a kindergarten-based, family-involved intervention on objectively measured physical activity in Belgian preschool boys and girls of high and low SES: the ToyBox-study. *International Journal of Behavioral Nutrition and Physical Activity.* 2014;11:1-14.

110 De Silva-Sanigorski A, Elea D, Bell C, Kremer P, Carpenter L, Nichols M, et al. Obesity prevention in the family day care setting: impact of the Romp & Chomp intervention on opportunities for children's physical activity and healthy eating. *Child: Care, Health & Development.* 2011;37:385-93.

111 Duncan S. Improving fitness and reducing obesity in preschool children. *British Medical Journal.* 2011;343:1-2.

112 Endres J, Barter S, Theodora P, Welch P. Soy-enhanced lunch acceptance by preschoolers. *Journal of the American Dietetic Association.* 2003;103(3):346-51.

113 Falbe J, Davison KK, Taveras EM, Gortmaker SL, Anand SG, Blaine RE, et al. Evaluating mass in motion kids (MiM Kids): a multi-sector intervention to reduce childhood obesity using a community-clinical partnership. *FASEB Journal.* 2013;27:36.

114 Farfan-Ramirez L, Diemoz L, Gong EJ, Lagura MA. Curriculum intervention in preschool children: Nutrition Matters! *Journal of Nutrition Education and Behavior.* 2011;43:S162-5.

115 Ferrer R, Arellano-Jimenez MR, Rangel D, Hernandez R, Caamaño M, Reyes L, et al. Effect of an education nutrition program in anthropometry, eating habits and physical activity in preschool children from Querétaro, México. *The FASEB Journal.* 2014;28:626-9.

116 Fitzgerald N, Mueller C, Willems C, Zhang Y. A school- based intervention's influence on food knowledge, food preference and gross motor skills among preschoolers. *The FASEB Journal.* 2014;28:252-5.

117 Fitzgibbon ML, Stolley MR, Dyer AR, Van Horn L, KauferChristoffel K. A community-based obesity prevention program for minority children: rationale and study design for Hip-Hop to Health Jr. *Preventive Medicine.* 2002;34:289-97.

118 Fitzgibbon ML, Stolley MR, Schiffer L, Van Horn L, KauferChristoffel K, Dyer A. Two-year follow-up results for Hip-Hop to Health Jr.: a randomized controlled trial for overweight prevention in preschool minority children. *Journal of Pediatrics.* 2005;146(5):618-25.

119 Fitzgibbon ML, Stolley MR, Schiffer L, Horn L, KauferChristoffel K, Dyer A. Hip-Hop to Health Jr. for Latino preschool children. *Obesity.* 2006;14(9):1616-25.

120 Fitzgibbon ML, Stolley MR, Schiffer LA, Braunschweig CL, Gomez SL, Horn L, et al. Hip-Hop to Health Jr. Obesity prevention effectiveness trial: post-intervention results. *Obesity.* 2011;19(5):994-1003.

121 Foltz JL, May AL, Belay B, Nihiser AJ, Dooyema CA, Blanck HM. Population-level intervention strategies and examples for obesity prevention in children. *Annual Review of Nutrition.* 2012;32:391-415.

122 Foulkes C. Lessons from Healthy Together Geelong: delivering systems change at scale across two levels of government. *Obesity Research and Clinical Practice.* 2014;8:33.

123 Fritz K. Fighting obesity in 4-year-olds - 'Move to Improve/ Catch the Energy'. *Strategies.* 2007;21(2):17-20.

124 Gallois KM, de Henauw S, Hassel H, Hebestreit A, Pigeot I, Zeeb H. Standardized development of the IDEFICS intervention and its implementation in Germany. *Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz.* 2011;54:330-8.

125 Gannon AM, Olson R. Assessing the effectiveness of pre-school nutrition education in West Virginia: a pilot program. *Journal of the Academy of Nutrition and Dietetics.* 2013;9(113):A77.

126 Gannon AM, Jeffrey J, Dice L. Evaluating the impact of a group education obesity intervention in early child care. 2014 Food & Nutrition Conference & Expo, October 18- 21, 2014, Atlanta, GA. *Journal of the Academy of Nutrition and Dietetics.* 2014;114:A81.

127 Girardet JP, Bocquet A, Bresson JL, Chouraqui JP, Darmaun D, Dupont C, et al. French national program for nutrition and health: effects on children's health. *Archives de Pédiatrie.* 2009;16(1):3.

128 Goldberg P. A Comparison of BMI Percentiles and Predictor Variables for Two Head Start Childhood Obesity Prevention Programs. George Mason University, 2010.

129 Goldfield GS, Harvey A, Grattan K, Colley R, Alberga AS, Ferraro ZM, et al. The preschoolers activity trial (PAT): a randomized controlled trial of physical activity intervention in the early years. *Archives of Disease in Childhood.* 2012;97:A114.

130 Goldfield G, Harvey A, Grattan K, Colley R, Alberga A, Ferraro Z, et al. The Preschoolers Activity Trial (PAT): a randomized controlled trial evaluating the effects of physical activity on adiposity in the early years. *Obesity Facts.* 2014;7:121.

131 Golley RK, Hendrie GA, Slater A, Corsini N. Interventions that involve parents to improve children's weight-related nutrition intake and activity patterns: what

nutrition and activity targets and behaviour change techniques are associated with intervention effectiveness? *Obesity Reviews.* 2011;12:114–30.

132 Graham D, Appleton S, Rush E, McLennan S, Reed P, Simmons D. Increasing activity and improving nutrition through a schools-based programme: Project Energize. 1. Design, programme, randomisation and evaluation methodology. *Public Health Nutrition.* 2008;11:1076-84.

133 Hammons AJ, Wiley AR, Fiese BH, Teran-Garcia M. Six- week Latino family prevention pilot program effectively promotes healthy behaviors and reduces obesogenic behaviors. *Journal of Nutrition Education and Behavior.* 2013;45(6):745-50.

134 Hanna H, Mathews R, Southward LH, Cross GW, Kotch J, Blanchard T, et al. Use of paid child care health care consultants in early care and education settings: results of a national study comparing provision of health screening services among Head Start and non-Head Start centers. *Journal of Pediatric Health Care.* 2012;26(6):427–35.

135 Harvey H, Coleman G. Raising healthy eaters: a parenting and nutrition curriculum. *Journal of Nutrition Education and Behavior.* 2008;40(1):52-3.

136 Helland S, Bere E, Overby N. Food for preschoolers. *Annals of Nutrition and Metabolism.* 2013;63:621.

137 Herbert B, Strauß A, Mayer A, Duvinage K, Mitschek C, Koletzko B. Implementation process and acceptance of a setting based prevention programme to promote healthy lifestyle in preschool children. *Health Education Journal.* 2013;72(3):363-72.

138 Herman A, Nelson BB, Teutsch C, Chung PJ. “Eat Healthy, Stay Active!”: a coordinated intervention to improve nutrition and physical activity among Head Start parents, staff, and children. *American Journal of Health Promotion.* 2012;27:e27-36.

139 Isbell P, Kotch J, Savage E, Gunn E, Lu L, Weber D. Improvement of child care programs’ health and safety policies, and practices, and children’s access to health care, linked to child care health consultation. *NHSA Dialog.* 2013;16(2):34-52.

140 Jones RA, Warren JM, Okely AD, Collins CE, Morgan PJ, Cliff DP. Process evaluation of the Hunter Illawarra Kids Challenge Using Parent Support study: a multisite randomized controlled trial for the management of child obesity. *Health Promotion Practice.* 2010;11(6):917-27.

141 Jouret B, Ahluwalia N, Dupuy M, Cristini C, Negre-Pages L, Grandjean H, et al. Prevention of overweight in preschool children: results of kindergarten-based interventions. *International Journal of Obesity.* 2009;33:1075-83.

142 Kain J, Uauy R, Concha F, Leyton B, Bustos N, Salazar G, et al. School-based obesity prevention interventions for Chilean children during the past decades: lessons learned. *Advances in Nutrition.* 2012;3:616S-21S.

143 Lent M, Hill TF, Dollahite JS, Wolfe WS, Dickin KL. Healthy children, healthy families: parents making a difference! A curriculum integrating key nutrition, physical activity, and parenting practices to help prevent childhood obesity. *Journal of Nutrition Education And Behavior.* 2012;44(1):90-2.

144 Lerner-Geva L, Bar-Zvi E, Levitan G, Boyko V, Reichman B, Pinhas-Hamiel O. An intervention for improving the lifestyle habits of kindergarten children in Israel: a cluster randomised controlled trial investigation. *Public Health Nutrition.* 2015;18:1537-44.

145 Manios Y, Grammatikaki E, Androutsos O, Chinapaw MJ, Gibson EL, Buijs G, et al. A systematic approach for the development of a kindergarten-based intervention for the prevention of obesity in preschool age children: the ToyBox-study. *Obesity Reviews.* 2012;13(s1):3-12.

146 Manios Y, Androutsos O, Katsarou C, de Bourdeaudhuij I, Koletzko B, Moreno L, et al. Early prevention of childhood obesity: review of the literature and the first results of the ToyBox-study. *Annals of Nutrition And Metabolism.* 2013;63:64-5.

147 Mazzeo D, Arens SA, Germeroth C, Hein H. Stopping childhood obesity before it begins. *Phi Delta Kappan.* 2012;93(7):10-5.

148 Metcalf B, Wilkin T. Lifestyle intervention in preschool children has little effect on obesity. *British Medical Journal.* 2012;344:1.

149 Mier N, Piziak V, Valdez L. Ultimate nutrition game for Mexican American preschoolers. *Journal of Nutrition Education and Behavior.* 2005;37(6):325-6.

150 Mo-suwan L, Pongprapai S, Junjana C, Puetpaiboon A. Effects of a controlled trial of a school-based exercise program on the obesity indexes of preschool children. *American Journal of Clinical Nutrition.* 1998;68:1006-11.

151 Najjar RH, Docherty A, Adita, L, Bergstro N, Larson E, Seitzinger A. Examining the effectiveness of the classroom portion of the 5-2-1-0 program. *Communicating Nursing Research.* 2013;46:694.

152 National Association of Pediatric Nurse Associates and Practitioners. NAPNAP healthy eating and activity together (HEAT) initiative. *Journal of Pediatric Health Care.* 2006;20:S3-63.

153 Natale RA, Messiah SE, Asfour L, Uhlhorn SB, Delamater A, Arheart KL. Role modeling as an early childhood obesity prevention strategy: effect of parents and teachers on preschool children's healthy lifestyle habits. *Journal of Developmental and Behavioral Pediatrics.* 2014;35:378-87.

154 Nemet D, Geva D, Pantanowitz M, Igbaria N, Meckel Y, Eliakim A. Health promotion intervention in Arab-Israeli kindergarten children. *Journal of Pediatric Endocrinology and Metabolism.* 2011;24:1001-7.

155 Nemet D, Geva D, Pantanowitz M, Igbaria N, Meckel Y, Eliakim A. Long term effects of a health promotion intervention in low socioeconomic Arab-Israeli kindergartens. *BMC Pediatrics.* 2013;13:45.

156 Niederer I, Kriemler S, Zahner L, Bürgi F, Ebenegger V, Hartmann T, et al. Influence of a lifestyle intervention in preschool children on physiological and psychological parameters (Ballabeina): study design of a cluster randomized controlled trial. *BMC Public Health.* 2009;9:94.

157 Niederer I, Bürgi F, Ebenegger V, Marques-Vidal P, Schindler C, Nydegger A, et al. Effects of a lifestyle intervention on adiposity and fitness in overweight or low fit preschoolers (Ballabeina). *Obesity.* 2013;21(3):E287–93.

158 Organizational Research Services. Pilot Evaluation Report, Executive Summary, Healthy Child Care Washington. Seattle, WA: Organizational Research Services, 2003.

159 Page AS, Winklhofer-Roob BM. Five-minutes-to-twelve for implementation of early changes in dietary and lifestyle behaviour across Europe. *International Journal of Obesity.* 2011;35:S1-2.

160 Partington S, Murphy E, Bowen E, Lacombe D, Piras G, Carson L, et al. Choose to Change: The West Virginia Early Childhood Obesity Prevention Project. *Journal of Nutrition Education and Behavior.* 2012;44(4):S82-3.

161 Passehl B, McCarroll C, Buechner J, Gearring C, Smith AE, Trowbridge F. Preventing childhood obesity: establishing healthy lifestyle habits in the preschool years. *Journal of Pediatric Health Care.* 2004;18:315-9.

162 Patel AI, Cabana MD. Encouraging healthy beverage intake in child care and school settings. *Current Opinion in Pediatric.s* 2010;22:779-84.

163 Peregrin T. Take 10! Classroom-based program fights obesity by getting kids out of their seats. *Journal of the American Dietetic Association.* 2001;101:1409.

164 Phillips F. Nutrition and pre-school children. *Nutrition Bulletin.* 2004;29:64-6.

165 Prosper M, Moczulski VL, Qureshi A, Weiss M, Bryars T. Healthy for Life/PE4ME: assessing an intervention targeting childhood obesity. *Californian Journal of Health Promotion.* 2009;7:1-10.

166 Ramsay S, Safaii S, Croschere T, Branen LJ, Wiest M. Kindergarteners' entree intake increases when served a larger entree portion in school lunch: a quasi-experiment. *Journal of School Health.* 2013;83:239-42.

167 Requena Ayala I. Wednesday, fruit day at the American School of Valencia. *Metas de Enfermería.* 2010;13:56-9.

168 Roth K, Mauer S, Obinger M, Lenz D, Hebestreit H. Activity and health prevention in preschools - contents of an activity-based intervention programme (PAKT - Prevention through Activity in Kindergarten Trial). *Journal of Public Health.* 2011;19:293-303.

169 Roths B, Fees BS, Bailey G, Fitzgerald K. Let's move, learn, and have fun!. *Journal of Nutrition Education and Behavior.* 2002;34:343-4.

170 Rudolf MCJ, Hunt C, George J, Hajibagheri K, Blair M. HENRY: development, pilot and long-term evaluation of a programme to help practitioners work more effectively with parents of babies and pre-school children to prevent childhood obesity. *Child: Care, Health and Development.* 2010;36:850–7.

171 Sanigorski AM, Bell AC, Kremer PJ, Cuttler R, Swinburn BA. Reducing unhealthy weight gain in children through community capacity-building: results of a quasi-experimental intervention program, Be Active Eat Well. *International Journal of Obesity.* 2008;32:1060-7.

172 Santos-Beneit G, Sotos-Prieto M, Penalvo JL, Pocock S, Redondo J, Fuster V. Anthropometry and blood pressure in 3-5 year old children of Madrid: Program si! study. *Annals of Nutrition and Metabolism.* 2013;63:921.

173 Savage AI, Koch T. A pediatric healthy lifestyle program. *AAACN Viewpoint.* 2006;28:9-11.

174 Schindler JM, Corbett D, Forestell CA. Assessing the effect of food exposure on children's identification and acceptance of fruit and vegetables. *Eating Behaviors.* 2013;14:53-6.

175 Schwarz DF, Mallya G. The Philadelphia experience: actionable strategies for childhood obesity prevention. *Childhood Obesity.* 2013;9:282-5.

176 Sekhobo JP, Egglefield K, Edmunds LS, Shackman G. Evidence of the adoption and implementation of a statewide childhood obesity prevention initiative in the New York State WIC Program: the NY Fit WIC process evaluation. *Health Education Research.* 2012;27:281-91.

177 Skouteris H, Edwards S, Rutherford L, Cutter-MacKenzie A, Huang T, O'Connor A. Promoting healthy eating, active play and sustainability consciousness in early childhood curricula, addressing the Ben10TM problem: a randomised control trial. *BMC Public Health.* 2014;14:548.

178 Small L. PLAY! To tackle obesity in preschoolers. Parents Leading Active Youth. *Nurse Practitioner World News.* 2007;12:16-7.

179 Smiciklas-Wright H, D'Augelli AR. Primary prevention for overweight: Preschool Eating Patterns (PEP) Program. *Journal of the American Dietetic Association.* 1978;72(6):626.

180 Stock S, Miranda C, Evans S, Plessis S, Ridley J, Yeh S, et al. Healthy Buddies: a novel, peer-led health promotion program for the prevention of obesity and eating disorders in children in elementary school. *Pediatrics.* 2007;120: e1059-68.

181 Stolley MR, Fitzgibbon ML, Dyer A, Van Horn L, KauferChristoffel K, Schiffer L. Hip-Hop to Health Jr., an obesity prevention program for minority preschool children: baseline characteristics of participants. *Preventive Medicine.* 2003;36:320-9.

182 Story M, Hannan PJ, Fulkerson JA, Rock BH, Smyth M, Arcan C, et al. Bright Start: description and main outcomes from a group-randomized obesity prevention trial in American Indian children. *Obesity.* 2012;20:2241-9.

183 Strauß A, Herbert B, Mitschek C, Duvinage K. TigerKids. *Bundesgesundheitsblatt-Gesundheitsforschung-Gesundheitsschutz.* 2011;54(3):322-9.

184 Summerbell CD, Moore HJ, Vogele C, Kreichauf S, Wildgruber A, Manios Y, et al. Evidence-based recommendations for the development of obesity prevention programs targeted at preschool children. *Obesity Reviews.* 2012;13 Suppl 1:129-32.

185 Thibault H, Boulard S, Carriere C, Ruello M, Atchoarena S, Delmas C, et al. Prevention and treatment of childhood obesity in the Aquitaine region (France). *International Journal of Pediatric Obesity.* 2010;5:39-40.

186 Thomas R. Conditional cash transfers to improve education and health: an ex ante evaluation of red de protección social, Nicaragua. *Health Economics.* 2012;21:1136-54.

187 Trost SG, Gunter K, Rice K. Promotion of healthy eating and regular physical activity in children attending family child care homes. *Journal of Nutrition Education and Behavior.* 2012;44:S83.

188 Vanderwall C, Mullen M, Keim K, Sowa D. Parents Learn about Thoughtful Eating (PLATE) Program: school-based intervention to prevent obesity in preschool-aged children. *Journal of Nutrition Education and Behavior.* 2012;44:S49.

189 Van Stan S, Lessard L, Dupont Phillips K. The impact of a statewide training to increase child care providers' knowledge of nutrition and physical activity rules in Delaware. *Childhood Obesity.* 2013;9:43-50.

190 Vasquez F, Andrade M, Rodriguez M, Salazar G. Effect of educational nutrition program on the energy and macronutrients intake of preschoolers attending Junji day care centres in the eastern sector of Santiago, Chile. *Archivos Latinoamericanos de Nutricion.* 2008;58:241-8.

191 Verbestel V, De Coen V, Van Winckel M, Huybrechts I, Maes L, De Bourdeaudhuij I. Prevention of overweight in children younger than 2 years old: a pilot cluster- randomized controlled trial. *Public Health Nutrition.* 2014;17:1384-92.

192 Watt RG, Draper AK, Ohly HR, Rees G, Pikhart H, Cooke L, et al. Methodological development of an exploratory randomised controlled trial of an early years' nutrition intervention: the CHERRY programme (Choosing Healthy Eating when Really Young). *Maternal and Child Nutrition.* 2014;10(2):280-94.

193 Whaley SE, McGregor S, Jiang L, Gomez J, Harrison G, Jenks E. A WIC-based intervention to prevent early childhood overweight. *Journal of Nutrition Education and Behavior.* 2010;42:S47-51.

194 Wilken LR, Novotny R, Fialkowski MK, Boushey CJ, Nigg C, Paulino Y, et al. Children's Healthy Living (CHL) Program for remote underserved minority populations in the Pacific region: rationale and design of a community randomized trial to prevent early childhood obesity. *BMC Public Health.* 2013;13:944.

195 Williams CL, Carter BJ, Kibbe DL, Dennison D. Increasing physical activity in preschool: a pilot study to evaluate animal trackers. *Journal of Nutrition Education and Behavior.* 2009;41:47-52.

196 Witt KE, Dunn C. Increasing fruit and vegetable consumption among preschoolers: evaluation of Color Me Healthy. *Journal of Nutrition Education and Behavior.* 2012;44:107-13.

197 Yin Z, Parra-Medina D, Cordova A, He M, Trummer V, Sosa E, et al. Miranos! Look at us, we are healthy! An environmental approach to early childhood obesity prevention. *Childhood Obesity.* 2012;8:429-39.

198 Zask A, Barnett LM, Rose L, Brooks LO, Molyneux M, Hughes D, et al. Three year follow-up of an early childhood intervention: is movement skill sustained?. *International Journal of Behavioral Nutrition and Physical Activity* 2012;9:127.

199 Zhou Z, Ren H, Yin Z, Wang L, Wang K. A policy-driven multifaceted approach for early childhood physical fitness promotion: impacts on body composition and physical fitness in young Chinese children. *BMC Pediatrics.* 2014;14:118.

CHAPTER 4

A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services (study protocol)

A version of this chapter was published in BMJ Open.

Jones J, Wolfenden L, Wyse R, Finch M, Yoong SL, Dodds P, Pond N, Gillham K, Freund M, McElduff P, Wye P, Wiggers J. A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services. *BMJ Open.* 2014;4:e005312. doi: 10.1136/bmjopen-2014-005312

CHAPTER OVERVIEW

Chapter 3 found equivocal evidence regarding the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes that promote child healthy eating, physical activity and/or obesity prevention within childcare services. Of the 10 included trials, none improved all policies and practices targeted by the intervention. The review identified the need for future research in the field to address the limitations of the existing evidence base including utilising larger sample sizes, assessing the impact of interventions on child health behaviours together with implementation, and the development of interventions based on relevant theoretical frameworks. Chapter 4 consists of a study protocol describing the development and methods of a randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services, which partly addresses these limitations.

ABSTRACT

Background: Childhood and overweight and obesity tracks into adulthood, increasing the risk of developing future chronic disease. Implementing initiatives promoting healthy eating and physical activity in childcare settings has been identified as a priority to prevent excessive child weight gain. Despite this, few trials have been conducted to assess the effectiveness of interventions to support population-wide implementation of such initiatives. The aim of this study is to assess the effectiveness of a multi-component intervention in increasing the implementation of healthy eating and physical activity policies and practices by centre-based childcare services.

Methods and analysis: The study will employ a parallel group randomised controlled trial design. A sample of 128 childcare services in the Hunter region of New South Wales, Australia, will be recruited to participate in the trial. Sixty-four services will be randomly allocated to a 12-month implementation intervention. The remaining 64 services will be allocated to a usual care control group. The intervention will consist of a number of strategies to facilitate childcare service implementation of healthy eating and physical activity policies and practices. Intervention strategies will include implementation support staff, securing executive support, consensus processes, staff training, academic detailing visits, performance monitoring and feedback, tools and resources, and a communications strategy. The primary outcome of the trial will be the proportion of services implementing all healthy eating and physical activity policies and practices targeted by the intervention. To assess the effectiveness of the

intervention, telephone surveys with service managers and room leaders of childcare services will be conducted at baseline and immediately post-intervention.

Ethics and dissemination: The study was approved by the Hunter New England Human Research Ethics Committee and the University of Newcastle Human Research Ethics Committee (Appendix 2.1). Study findings will be disseminated widely through peer-reviewed publications and conference presentations.

Trial registration number: Australian Clinical Trials Registry ACTRN12612000927820

Strengths and limitations of this study:

- The study has a strong design incorporating random allocation and blinding of data collection interviewers.
- The intervention consists of a broad set of intervention strategies and is based on a theoretical framework and past research evidence.
- The study is one of only a handful of randomised trials of such interventions internationally, and the first of its kind in Australia.
- The intervention is conducted in one region of New South Wales, Australia, and the findings may not generalise internationally.

BACKGROUND

Globally the prevalence of child overweight and obesity is increasing, with 9% of children aged 0 to 5 years expected to be overweight or obese by the year 2020.[1] Overweight and obesity in childhood tracks into adulthood,[2] increasing the risk of developing a number of chronic health conditions. Given early childhood represents a critical period in the development of diet and physical activity behaviours, interventions that aim to improve such behaviours have been recommended to prevent the onset of obesity among young children.[3–7]

Childcare services have been identified as a key setting to create environments supportive of child healthy eating and physical activity.[8] In developed countries, childcare services provide access to a large and growing number of children for prolonged periods each day.[8–11] Evidence from randomised and quasi-experimental trials suggests that healthy eating and physical activity promoting policies and practices can increase time children spend being physically active, improve child fundamental movement skill proficiency, improve child diet quality in care and prevent excessive weight gain.[12–15] As such, licensing and accreditation requirements and best practice guidelines for the childcare setting recommend that services implement a number of policies and practices to support healthy eating and physical activity.[16–21]

Despite such evidence and recommendations from best practice guidelines, childcare service implementation of healthy eating and physical activity policies and practices

appears to be limited internationally[17] and within Australia.[22] Australian research, for example, suggests that just 48% to 50% of centre-based childcare services have a written physical activity policy, 46% to 60% programme time each day for fundamental movement skill development, while 25% to 28% provide opportunities each day for children to participate in sedentary screen time,[22] and 60% of Australian preschooler lunchboxes contain more than one serve of high fat, salt or sugar foods or drinks.[23]

Without adequate implementation, the potential public health benefits of interventions to prevent childhood overweight and obesity in childcare services will not be realised. A recent Cochrane review identified just 10 controlled trials examining the effectiveness of interventions to improve childcare service implementation of healthy eating, physical activity and obesity prevention promoting policies, practices and programmes.[24] No intervention improved the implementation of all targeted policies and practices relative to a comparison group. Most of the included trials reported non-significant improvements or improvements in only a minority of healthy eating or physical activity policies of practices targeted by the intervention.[13,14,25–27] The trials also utilised a narrow set of implementation strategies (for example workforce development and resource provision)[14,28] or developed interventions without the guidance of conceptual or theoretical frameworks,[13,28] limiting their potential effectiveness. Finally, most trials have been conducted on small numbers of childcare services (less than 20) limiting their capacity to guide approaches aimed at achieving population-level service improvements.[27,28]

Given the limitations of the existing evidence base, a randomised trial of a theoretically based, multi-component implementation intervention to increase the implementation of healthy eating and physical activity policies and practices in childcare services in Australia will be conducted. This paper describes the protocol by which this trial will be conducted.

METHODS

Study aim

The aim of this study is to assess the effectiveness of multi-component intervention in increasing the implementation of healthy eating and physical activity policies and practices by centre-based childcare services.

Study design

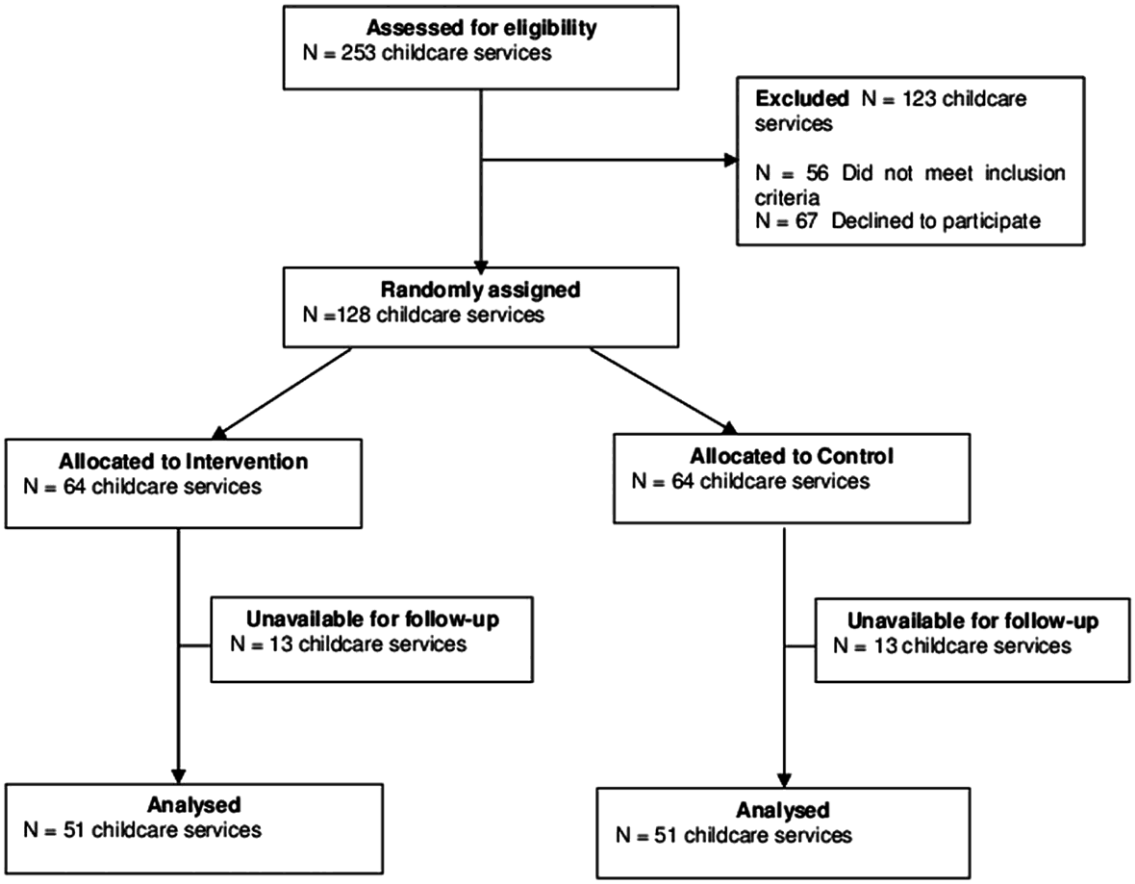
The study will employ a parallel group randomised controlled trial design (see Figure 4.1). A sample of eligible childcare services in the study region will be randomly selected and invited to participate in the trial. Sixty-four services will be allocated to receive a 12-month implementation intervention, and 64 services will be allocated to receive usual care and will serve as a control group. To assess the effectiveness of the intervention, across each service, surveys administered via computer assisted telephone interview (CATI) will be conducted with the service manager and room leader (room supervisor) caring for children 3 to 5 years. The surveys will be conducted at baseline and immediately post-intervention. CATI interviewers will be blind to group

allocation. The research will be reported in accordance with the requirements of CONSORT Statement.[29] The trial is funded by the Australian National Preventive Health Agency (reference: 95WOL2011) with in-kind support for the trial provided by Hunter New England Population Health.

Research setting

The study will take place in the Hunter region of New South Wales, Australia. The region encompasses non-metropolitan 'major cities' and 'inner regional' areas as described by the Australian Statistical Geography Standard.[30] There are 586,000 people residing in the area, of which 23,000 are children aged 3 to 5 years.[31,32] Approximately 3% of residents are of Aboriginal or Torres Strait Islander origin and 4% speak languages other than English.[31,32] The Hunter region has lower indices of socioeconomic status than the New South Wales state average.[31,32]

Figure 4.1: CONSORT flow diagram estimating the progress of childcare services through the trial



Sample

Childcare services

For the purpose of the study, centre-based childcare services include preschools and long day care services. More than 60% of Australian children aged 3 to 5 years attend preschool or long day care.[11] In New South Wales, preschools provide centre-based care for 6 to 8 hours per day and enrol children aged between 3 to 6 years. Long day care services provide centre-based care for eight or more hours per day and usually enrol children aged from 6 weeks up to 6 years. Both types of services provide specific programmes for children aged 3 to 5 years that include educational and developmental activities to assist children in their preparation for school.[33] Across Australian states and territories, the role and function of preschools and long day care services are similar and licensing and accreditation requirements regarding healthy eating and physical activity policies and practices are identical.[21] Physical activity policies and practices are similar across both service types.[22]

In 2012, there were over 250 centre-based childcare services in the study region. A current list of all childcare services in the region provided by the New South Wales Ministry of Health will serve as the sampling frame for the study. Services catering exclusively for children requiring specialist care will be excluded from the trial (representing less than 1% of services in the region), as will services that provide on-site meals to children (representing approximately 30% of services in the region). Government funded, Department of Education services (representing approximately

3% of services in the region) will also be excluded as ethics approval has not been obtained from the relevant government department.

Service managers and room leaders

Within participating childcare services, service managers and room leaders will be invited to participate in CATI surveys to assess the effectiveness of the intervention. The service manager is the person responsible for the management of the service and will be asked to report on the implementation of whole-of-service policies and practices. The room leader caring for 3 to 5 year-old children is the head teacher of the classroom and will be asked to report on the implementation of specific healthy eating and physical activity policies and practices within their room. Where there are more than one service managers or room leaders within a service, a member of the research team will randomly select one staff member to be invited to participate by requesting the staff member with the most recent birthday. There are no exclusion criteria for service manager or room leader participation.

Recruitment procedures

In order to maximise service participation in the study, a recruitment strategy will be employed based on a review of effective recruitment practices within the school setting[34] which has also been successfully executed in childcare settings by the research team.[35–37] Specifically, one member of the research team will act as a dedicated recruitment coordinator. The coordinator will manage the recruitment of

services into the trial and monitor consent rates. Services will be provided with the direct phone number of the coordinator for enquiries regarding the research. Study information will be mailed to childcare services inviting participation in the study (Appendix 4.1). Service managers will be invited to provide consent for their service participation in the study, consent for their participation in a CATI survey and consent to contact a room leader to participate in a CATI survey. Two weeks after receipt of the information, service managers and room leaders will be telephoned by a research assistant who will confirm eligibility, invite study participation and schedule a time to conduct the baseline CATI surveys. To minimise attrition, prior to follow-up data collection, services will receive letters thanking them for their participation to date and reminding them that they will be telephoned again to participate in follow-up data collection.[38]

Random allocation of childcare services

Following the completion of baseline data collection, childcare services will be randomly allocated to either the intervention or control condition using a computerised random number function in Microsoft Excel. Allocation of services will be undertaken by a statistician who will have no other involvement in the trial. The random allocation of childcare services will not be stratified, given previous studies have found only slight differences in implementation of healthy eating and physical activity policies and practices by service type (preschool or long day care service), size or the socioeconomic or geographic characteristics of the service locality.[22] Services

will be randomised in a 1:1 (intervention:control) ratio. Owing to the difficulty in blinding services to their group allocation, this trial will be an 'open' trial and services will not be blind to study allocation.

Intervention

Implementation intervention

The intervention was designed by an expert advisory group of health promotion practitioners, psychologists, dietitians, behavioural scientists and physical activity experts, in consultation with nominated supervisors from local childcare services. The intervention will seek to increase service implementation of healthy eating and physical activity policies and practices. The policies and practices are consistent with best practice Australian healthy eating and physical activity guidelines for the childcare setting,[39,40] and evidence reviews of policies and practices shown to be associated with child healthy eating and physical activity.[17,19] Specifically the intervention will target the implementation of the policies and practices described in the measures section.

Intervention strategies

The intervention will consist of a number of strategies to facilitate childcare service implementation of healthy eating and physical activity policies and practices. The strategies to support implementation have been developed to address identified barriers reported by childcare service staff to implementing health promoting policies and practices.[41] The effectiveness of the intervention components are supported by

reviews of implementation and practice change interventions,[42–45] and are consistent with recommendations for scaling up health programmes.[46]

Specifically, the intervention will include the following strategies:

Implementation support staff:[47]

Each service will be allocated an individual implementation support staff member who will provide ongoing implementation support and positive reinforcement to the service during the 12-month intervention. Support will be provided via face-to-face visits, telephone and email contacts.[47] Each contact will draw on continuous quality improvement principles to review progress, provide positive reinforcement and facilitate reflection, problem solving, goal setting and action planning.[47,48] Services will be allocated to staff members at a ratio of 20 services for every one full-time equivalent staff member.

Securing executive support:[49]

To secure executive support and leadership, the importance and benefits of implementing healthy eating and physical activity policies and practices will be communicated by implementation support staff to service managers during telephone contact, face-to-face meetings, training workshops, service visits and newsletters.[49] Service managers will be supported to monitor the implementation of policies and practices and will be asked to demonstrate leadership and managerial support, by leading the development and implementation of nutrition and physical activity policies, communicating expectations to childcare service staff during staff meetings,

co-facilitating training workshops with implementation support staff and participating in consensus processes during staff training workshops. Such factors have been associated with implementation success.[48–50]

Employment of consensus processes:[45, 51, 52]

Consensus processes will be employed to reduce childcare service staff resistance to policy and practice change by resolving any discrepancies between existing standards and expectations of childcare service staff.[51] A consensus process will occur following each staff training workshop (Appendix 4.2) where implementation support staff will facilitate a discussion involving service managers and childcare service staff, to reach agreement and a group decision regarding an implementation strategy for the targeted policies and practices.[51] The discussion will involve all childcare service staff and will allow for sharing of information, group goal setting, problem solving of barriers that may impede implementation and action planning.[45,51,52]

Provision of staff training:[53]

A series of three 1 hour training workshops will be provided to childcare service staff at their service, typically outside of operating hours (Appendix 4.2). The workshops will introduce key healthy eating and physical activity intervention messages and will focus on introducing and supporting the implementation of the healthy eating and physical activity policies and practices. The workshops will combine didactic and interactive components, including opportunities to practice new skills and to role-play, have group discussions, discuss case studies and receive facilitator provided feedback, as such

elements have been suggested to be more effective than didactic education alone.[45,53,54,55] Training workshops will be facilitated by experienced implementation support staff with expertise in early childhood education and health promotion and will be tailored to address the specific policies or practices that childcare services are not currently implementing.

Provision of academic detailing visits:[48, 56]

On three occasions following each training workshop, implementation support staff will conduct academic detailing visits with childcare service staff at their service (Appendix 4.3). The visits will draw on the principles of academic detailing outlined by Soumerai and Avorn[48] and will involve support staff observing childcare service staff implementation of practices targeted by the intervention. During the visits, implementation support staff will provide immediate feedback based on observations of practice regarding policy or practice implementation, provide further advice or support as required and reinforce observed practice improvements. Subsequent visits will be similarly structured by tailoring based on the policies and practices that services are having difficulty implementing.[56]

Provision of tools and resources:[47]

All services will receive a package of tools and resources to support and sufficiently equip childcare service staff to implement the healthy eating and physical activity policies and practices (Appendix 4.4). The resources were reviewed by local service managers and childcare service staff to ensure that they are relevant, attractive and

user-friendly in order to increase the likelihood of use.[47] Specifically the resource package includes an implementation manual, policy templates, reflection and goal setting document, self-assessment forms, a DVD with age-appropriate physical activity games to encourage the development of fundamental movement skills, lanyards to be worn by childcare service staff during outdoor play with pictures and instructions for each fundamental movement skill, healthy food guideline posters and parent lunchbox resources. Resources will be provided to services in electronic and hard copy forms.

Provision of performance monitoring and feedback:[57, 58]

Performance feedback will be delivered by implementation support staff to service managers and childcare service staff members. Data for the performance feedback will be compiled initially using information collected via the baseline CATI and thereafter project records maintained by implementation support staff. Feedback will describe individual service progress towards implementation of the targeted healthy eating and physical activity policies and practices at six intervals throughout the 12-month intervention. Feedback will be provided in written, graphic and verbal modalities.[57,58] In order to maximise the effectiveness of this strategy, performance will be compared against agreed benchmarks and the performance of all services receiving the intervention. Action plans will be negotiated with services to facilitate further performance improvement.[57]

Employment of a communications strategy:[59]

Services will receive bimonthly printed newsletters which will communicate key messages relating to the healthy eating and physical activity policies and practices (Appendix 4.5).[59] The newsletters will case study individual services which have undertaken successful and innovative approaches to implementation, and include content to help overcome key implementation barriers. Services that demonstrate achievement of all healthy eating and physical activity policies and practices will also receive a certificate of recognition and will be promoted to other services through newsletters and staff training workshops.[47] Service managers will also be able to nominate individual childcare service staff members who demonstrate significant achievement towards the key policies and practices for a certificate of recognition.

Theoretical perspective

The use of comprehensive theoretical frameworks, particularly those operating at multiple levels within complex systems, has been recommended to guide the development of implementation interventions.[24] Given the lack of evidence for the effectiveness of theoretical frameworks for community-based implementation interventions,[24] the intervention draws on implementation theory previously utilised in clinical settings.[24] Specifically, the intervention draws on Damschroder's Consolidated Framework for Implementation Research.[60] The framework integrates 19 theoretical models and is composed of five major domains identified as influential in successful intervention implementation: intervention characteristics, outer setting, inner setting, characteristics of the individuals involved and the process of implementation. The

constructs contained within the five domains of the consolidated framework for implementation research and the application of the relevant constructs to the intervention are described in Table 4.1.

Intervention personnel, training, supervision and monitoring

Implementation support staff will attend a two-day training workshop which will focus on equipping staff with sufficient knowledge and skills to deliver the intervention. Intervention delivery will be overseen by a project manager. All implementation support staff will participate in fortnightly group meetings, where a self-regulatory model of peer supervision will be utilised to facilitate learning, improve staff performance and help standardise intervention delivery.[61] Project records will be maintained by implementation support staff and will be used to monitor intervention delivery according to the protocol. Such staff will also have access to dietitians, psychologists and childcare service staff for specialist advice and support.

Control group

Participating services randomised to the control group will not receive any intervention by the research team during the study period. At the end of the study period, control group services will receive usual implementation support from the local health promotion service.

Table 4.1: Application of the Consolidated Framework for Implementation Research

CONSTRUCT	APPLICATION TO INTERVENTION
Intervention characteristics: characteristics of the healthy eating and physical activity policies and practices	
Intervention source: Was the intervention developed internally by childcare services or by external agencies?	The intervention was designed externally by an expert advisory group of health promotion practitioners, psychologists, dietitians, behavioural scientists and physical activity experts, in consultation with service managers from local childcare services. Components of the intervention (including staff training workshops and the tools and resources) will be pilot tested with childcare services prior to implementation
Evidence strength and quality: What are the service manager's and childcare service staff's perceptions of the strength and quality of evidence that the intervention will have the intended outcomes?	There is strong evidence to support childcare services as a setting to create environments more supportive of child healthy eating and physical activity. The strength of evidence will be communicated to childcare service staff during telephone contact, face-to-face meetings, training workshops, service visits and newsletters. Policies and practices are consistent with licensing and accreditation requirements and evidence-based best practice guidelines for the childcare setting
Adaptability: Is the intervention able to be adapted or tailored to meet the needs of the childcare service?	Staff training workshops will be tailored to meet service needs based on the policies and practices not being implemented at baseline. Implementation support staff will employ consensus processes regarding how to implement policies and practices that best suit the service needs. Advice on the use of tools and resources will be tailored based on identified barriers to changing healthy eating and physical activity policy and practice
Complexity: What are the service manager's and childcare service staff's perceptions of implementation difficulty?	Healthy eating and physical activity policies and practices endorsed by the intervention are consistent with existing licensing and accreditation requirements for the setting. Support will focus on integrating policies and practices into existing service routines to reduce the burden on childcare service staff. This will be communicated to childcare service staff during telephone contact, face-to-face meetings, training workshops, service visits and newsletters
Design quality and packaging: What are the service manager's and childcare service staff's perceptions of how the intervention is presented?	Tools and resources will be reviewed by service managers and childcare service staff to ensure that they are professionally presented, attractive and user friendly. Newsletters will be bright and visually appealing.
Cost: What are the costs of the intervention and associated implementation?	The intervention will be provided to childcare services at no cost. This will be communicated to childcare service staff during telephone contact, face-to-face meetings, training workshops, service visits and newsletters

CONSTRUCT	APPLICATION TO INTERVENTION
Outer setting: the economic, political and social context within which the childcare service operates	
Peer pressure: Is there competitive pressure to implement the intervention?	Successful implementation of all policies and practices by childcare services will be communicated to other intervention services using a communications strategy. Individual service performance will be compared against the performance of all services receiving the intervention to permit peer comparison
External policy and incentives: What are the external strategies to spread the intervention (including policy and regulations, external mandates, recommendations and guidelines)?	Policies and practices are consistent with licensing and accreditation requirements and evidence-based best practice guidelines for the childcare setting. The use of continuous quality improvement principles during support contacts aligns with external policy and accreditation requirements for the childcare setting
Inner setting: the childcare service structural, political and cultural contexts through which the implementation process will proceed	
Tension for change: Do the service manager and childcare service staff perceive the current situation as needing to change?	The need for change will be explored during consensus processes, communicated to childcare service staff through newsletters via presentation of data and advocated by implementation support staff at training workshops and other service contacts
Relative priority: Do childcare service staff have a shared perception of the importance of implementation within the childcare service?	Service managers will communicate to childcare service staff that implementation of the targeted policies and practices represent an organisational priority during training workshops and staff meetings and via the development and endorsement of supportive policy
Organisational incentives and rewards: Does the intervention include incentives such as goal-sharing awards, performance reviews, increased stature?	Services that demonstrate achievement of all policies and practices will receive a certificate of recognition and will be promoted to other intervention services in newsletters and through training workshops
Goals and feedback: Are goals clearly communicated, acted on and fed back to service manager and childcare service staff?	Implementation support staff contacts with childcare service staff will draw on continuous quality improvement principles to review progress, provide positive reinforcement, discuss deficits identified from self-monitoring and facilitate reflection, problem solving, goal setting and action. Furthermore, performance feedback will be provided to services regarding achievement of key implementation goals

CONSTRUCT	APPLICATION TO INTERVENTION
Inner setting: the childcare service structural, political and cultural contexts through which the implementation process will proceed	
Leadership engagement: Are service managers committed, involved and accountable for the implementation?	Service managers and management committees will be engaged and encouraged to communicate their endorsement of practice changes to childcare service staff during staff meetings, training workshops and via the consensus processes. Performance feedback reports will be circulated to management committees and childcare service staff
Access to information and knowledge: How easy is it for childcare service staff to access information and knowledge about the intervention and how to incorporate it into work tasks?	Service managers and childcare service staff will receive resources and ongoing support from implementation support staff via face-to-face meetings, telephone and email. Services will also be able to contact implementation support staff at any time for advice or assistance
Characteristics of individuals: characteristics of childcare service staff	
Knowledge and beliefs about the intervention: What are the service manager and childcare service staff attitudes towards the intervention?	Beliefs of service managers and childcare service staff will be explored during initial service contacts. Beliefs which are incongruent with policy or practice implementation will be targeted during future intervention contacts. A focus of training workshops will be to provide knowledge for childcare service staff to motivate and equip staff with knowledge to facilitate implementation
Process: the active change process aimed to achieve individual staff and childcare service use of the intervention	
Engaging: Are appropriate individuals involved in the implementation through education, role modelling, training?	Service management committees, service managers and childcare service staff will be engaged in implementation through involvement in discussions regarding service priorities, service goals and strategies to meet goals and overcome barriers. Services will be encouraged to explain and communicate any changes to service operation to families

Data collection procedures

Baseline and follow-up data will be collected through two CATI surveys, one administered to the service manager and one administered to the room leader caring for 3 to 5 year-old children at all participating services (Appendix 4.6; Appendix 4.7; Appendix 4.8; Appendix 4.9). Similar surveys have been used previously by the research team to assess the policies and practices of childcare services.[22,25,35] Each CATI survey will take approximately 15 to 25 minutes to complete. CATI interviewers will be provided with training to ensure they understand and adhere to data collection protocols. Interviewers will also be required to practice the survey script prior to administration. Interviewers will not participate in the delivery of the intervention and will be blind to service group allocation. Baseline data will be collected one to two months prior to start of intervention delivery. The survey administered at baseline will be repeated immediately post-intervention. In order to assess if the hypothesised improvements in implementation of the healthy eating and physical activity policies and practices is sufficient to yield improvements to child diet and physical activity while attending childcare, a one-day observation will also be conducted during core service hours (9.00am to 3.00pm) in a random subsample of intervention and control group childcare services at follow-up.

Measures

Childcare service operational characteristics

Operational information will include the number of years in operation, the number of enrolled and attending children aged 3 to 5 years, the type of service (preschool or long day care service), number of primary contact teaching staff and hours of operation. Items to assess operational characteristics will be similar to those used in other Australian surveys of childcare services.[22,25,35]

Service healthy eating and physical activity policies and practices

The primary outcome is the change in proportion of services implementing all healthy eating and physical activity policies and practices. Given there are no validated items to assess such policies and practices in Australian childcare services, survey items assessing healthy eating and physical activity policies and practices will be based on (where available) those previously used in the description of the obesity prevention environments of Australian childcare services,[22,25,35] and validated items from the US Nutrition and Physical Activity Self-Assessment for Child Care instrument[62,63] and the Child Care Nutrition and Physical Activity Assessment Survey.[64] The validated items have adequate agreement (A) and κ scores (K). The items will assess:

1. Presence of written nutrition (K=0.76; A=88%) and physical activity policies (K=0.79; A=91%)
2. Staff monitoring of children's lunchboxes against written nutritional guidelines (A=88%) and provision of feedback to parents when a non-compliant food is

packed (statistic unavailable)

3. Provision of water (A=82%) or reduced fat milk only to children (K=0.73; A=82%);
4. Staff role modelling of physically active play (K=0.59; A=69%) and healthy eating (A=90%)
5. Staff provision of prompts and positive comments to children to encourage physical activity (statistic unavailable) and healthy eating (statistic unavailable)
6. Provision of adult-guided fundamental movement skill development activities (statistic unavailable)
7. Restriction of sedentary screen time (A=97%).

Child dietary intake and physical activity

Secondary trial outcomes include differences between groups at follow-up in the mean number of serves consumed by children for each food group within the Australian Guide to Healthy Eating (vegetables, fruit, grains, meat and meat alternatives, milk, yoghurt and cheese and discretionary foods), and differences between groups at follow-up in the proportion of children engaged in sedentary, walking or very active physical activity during all observations, structured physical activity and outdoor free play sessions. Child dietary intake will be assessed during a one-day observation using a modified version of the validated Dietary Observation for Child Care protocol (Appendix 2.5). Child physical activity levels will be assessed at the same one-day observation by the same observer, using a modified version of the System for Observing Play and Leisure in Youth (SOPLAY) tool and protocol (Appendix 2.5).

Intervention acceptability

At follow-up, the CATI survey for intervention services will include items assessing the use, acceptability and satisfaction with the intervention resources, training and support provided to services. The items will require service managers and room leaders to respond to a series of statements on a four-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. Acceptability items will be developed by the research team based on previous assessments of staff acceptability in delivering health promotion programmes.[25]

Context

For descriptive purposes and to aid an assessment of the external validity of the trial findings, a systematic search will be conducted to describe the context in which the trial was conducted. Specifically the search will include local news archives, websites of national and New South Wales health and education departments, accreditation standards and professional healthy eating and physical activity guidelines to identify the existence of or changes in government policy, standards, funded programmes or guidelines that may influence the healthy eating and physical activity environments of childcare services. The search will include the 12 months prior to and 12 months during the intervention delivery.

Sample size and power calculations

A 20% study attrition rate is estimated based on the previous research in this setting.[25] Given this, recruitment of 128 services into the trial at baseline would be sufficient to provide follow-up data from approximately 102 childcare services (51 per group) and enable the detection of an absolute difference between groups in the proportion of services implementing all policies and practices of 27% with 80% power and an alpha value of 0.05 (as outlined in Figure 4.1). The sample size calculation is based on an expected prevalence of control group services implementing all policies and practices at follow-up of 25% (unpublished data).

Statistical analysis

Descriptive statistics will be calculated to describe the demographic and service characteristics of intervention and control groups at baseline. All statistical tests will be 2-tailed with an alpha value of 0.05. The primary trial outcome will be analysed under an intention-to-treat framework where services are analysed based on the groups to which they were allocated, regardless of the treatment type or exposure received.[65] Intervention effectiveness will be determined using a logistic regression model adjusted for baseline values. Consistent with the approach of White et al,[66] the primary analysis will use all available data and include baseline policy and practice implementation as a covariate. A sensitivity analysis will be performed by imputing baseline observations at follow-up for missing data. Subgroup analyses will also be conducted by comparing service type (preschool or long day care service),

socioeconomic characteristics (service postcode in the top or bottom 50% of New South Wales according to the Socioeconomic Indices for Areas) and geographic characteristics (service locality, classified as urban or rural areas according to the Australian Statistical Geography Standard).

DISCUSSION

There is a clear need for intervention studies to extend the research regarding the implementation of healthy eating and physical activity policies and practices by childcare services. This trial aims to advance the currently limited evidence in this field and will contribute important information regarding the effectiveness of intervention strategies to facilitate the population-wide implementation of healthy eating and physical activity policies and practices in childcare services.

Strengths of this study include the trial's randomised design, the use of theoretical framework and broad set of intervention strategies, the long duration of the intervention (12 months), the implementation of procedures to reduce potential threats to internal validity, such as the blinding of data collection interviewers and computer-based randomisation of group allocation. Potential limitations include that the intervention will be conducted in one region of New South Wales, Australia, and the findings may not generalise internationally.

CONCLUSION

This manuscript provides a description of the study methods to be employed as part of a randomised controlled trial of a multi-component intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services. The study is one of only a handful of randomised trials of such interventions internationally, and the first of its kind in Australia, and will contribute greatly to the evidence regarding the effectiveness of interventions in this setting.

REFERENCES

1 De Onis M, Blossner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. *American Journal of Clinical Nutrition.* 2010;92(5):1257-64.

2 Venn AJ, Thomson RJ, Schmidt MD, Cleland VJ, Curry BA, Gennat HC, et al. Overweight and obesity from childhood to adulthood: a follow-up of participants in the 1985 Australian Schools Health and Fitness Survey. *Medical Journal of Australia.* 2007;186(9):458-60.

3 Hesketh KD, Campbell KJ. Interventions to prevent obesity in 0-5-year-olds: an updated systematic review of the literature. *Obesity.* 2010;18(Suppl 1):27-35.

4 Goldfield GS, Harvey A, Grattan K, Adamo KB. Physical activity promotion in the preschool years: a critical period to intervene. *International Journal of Environmental Research and Public Health.* 2012;9(4):1326-42.

5 Birch LL, Ventura AK. Preventing childhood obesity: what works? *International Journal of Obesity.* 2009;33(Suppl 1):74-81.

6 Swinburn B, Gill T, Kumanyika S. Obesity prevention: a proposed framework for translating evidence into action. *Obesity Reviews.* 2005;6(1):23-33.

7 Dietz WH. Critical periods in childhood for the development of obesity. *American Journal of Clinical Nutrition.* 1994;59(5):955-9.

8 Story M, Kaphingst KM, French S. The role of child care settings in obesity prevention. *The Future of Children.* 2006;16:143-68.

9 Mamedova S, Redford J. Early Childhood Program Participation, from the National Household Education Surveys Program of 2012. Washington DC, US Department of Education, 2013.

10 Huskinson T, Pye J, Medien K, Dobie, S, Ferguson C, Gardner C, et al. Childcare and early years survey of parents 2011. UK, UK Department for Education, 2013.

11 Australian Bureau of Statistics. Experimental estimates of preschool education (No. 4240.0). Canberra, Australia, Australian Bureau of Statistics, 2011.

12 Trost SG, Fees B, Dzewaltowski D. Feasibility and efficacy of a "Move and Learn" physical activity curriculum in preschool children. *Journal of Physical Activity and Health.* 2008;5(1):88-103.

13 Hardy L, King L, Kelly B, Farrell L, Howlett S. Munch and move: evaluation of a preschool healthy eating and movement skill program. *International Journal of Behavioral Nutrition and Physical Activity.* 2010;7(1):80.

14 De Silva-Sanigorski AM, Bell AC, Kremer P, Nichols M, Crellin M, Smith M, et al. Reducing obesity in early childhood: results from Romp & Chomp, an Australian community-wide intervention program. *American Journal of Clinical Nutrition.* 2010;91(4):831-40.

15 Adams J, Zask A, Dietrich U. Tooty Fruity Vegie in Preschools: an obesity prevention intervention in preschools targeting children's movement skills and eating behaviours. *Health Promotion Journal of Australia.* 2009;20:112-19.

16 Institute of Medicine. *Accelerating progress in obesity prevention: solving the weight of the nation*. Washington DC, US, The National Academies Press, 2012.

17 Larson N, Ward DS, Neelon SB, Story M. What role can child-care settings play in obesity prevention? A review of the evidence and call for research efforts. *Journal of the American Dietetic Association.* 2011;111(9):1343-62.

18 McWilliams C, Ball SC, Benjamin SE, Hales D, Vaughn A, Ward DS. Best-practice guidelines for physical activity at child care. *Pediatrics.* 2009;124(6):1650-9.

19 McPherson ME, Homer CJ. Policies to support obesity prevention for children: a focus on of early childhood policies. *Pediatric Clinics of North America.* 2011;58(6):1521-41.

20 Commonwealth of Australia. Get Up and Grow Healthy Eating and Physical Activity for Early Childhood. Canberra, Australia, Commonwealth of Australia, 2013.
http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-gug-staffcarers

21 Australian Children's Education and Care Quality Authority. National Quality Framework. Sydney, Australia, ACECQA, 2012.
http://acecqa.gov.au/national-quality-framework

22 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell C, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child Health.* 2010;47(3):73-6.

23 Kelly B, Hardy LL, Howlett S, King L, Farrell L, Hattersley L. Opening up Australian preschoolers' lunchboxes. *Australian New Zealand Journal of Public Health.* 2010;34(3):288-92.

24 Wolfenden L, Jones J, Williams CM, Finch M, Wyse RJ, Kingsland M, et al. Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services. Cochrane Database of Systematic Reviews. 2016; Issue 10. doi: 10.1002/14651858.CD011779.pub2

25 Finch M, Wolfenden L, Falkiner M, Edenden D, Pond N, Hardy L, et al. Impact of a population based intervention to increase the adoption of multiple physical activity practices in centre based childcare services: a quasi experimental, effectiveness study. *International Journal of Behavioral Nutrition and Physical Activity.* 2012;9(1):101.

26 Ward D, Benjamin SE, Ammerman AS, Ball SC, Neelon BH, Bangdiwala SI. Nutrition and physical activity in child care: Results from an environmental intervention. *American Journal of Preventive Medicine.* 2008;35(4):352-6.

27 Pettman T, McAllister M, Verity F, Magarey A, Dollman J, Tripptree M, et al. Eat well be active community programs: final report. Adelaide, Australia, SA Health, 2010.

28 Williams C, Bollella MC, Strobino BA, Spark A, Kicklas TA, Tolosi LB, et al. "Healthy Start": Outcome of an intervention to promote a heart healthy diet in preschool children. *Journal of the American College of Nutrition.* 2002;21(1):62-71.

29 Schulz KF, Altman DG, Moher D. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *BMC Medicine.* 2010;8(1):1.

30 Australian Bureau of Statistics. Australian statistical geography standard. Canberra, Australia, Australian Bureau of Statistics, 2011. http://www.abs.gov.au/websitedbs/d3310114.nsf/home/australian +statistical+geography+standard+(asgs)

31 Australian Bureau of Statistics. 2011 census community profiles Newcastle and Lake Macquarie. Canberra, Australia, Australian Bureau of Statistics, 2011. http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/ communityprofile/111? opendocument&navpos=100

32 Australian Bureau of Statistics. 2011 census community profiles Hunter Valley exc Newcastle. Canberra, Australia, Australian Bureau of Statistics, 2011. http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/ communityprofile/106? opendocument&navpos=100

33 Australian Bureau of Statistics. Childhood education and care June 2008 (Reissue) (No.4402.0). Canberra, Australia, Australian Bureau of Statistics, 2009.

34 Wolfenden L, Kypri K, Freund M, Hodder R. Obtaining active parental consent for school-based research: a guide for researchers. *Australian New Zealand Journal of Public Health.* 2009;33(3):270-5.

35 Bell AC, Davies L, Finch M, Wolfenden L, Francis JL, Sutherland R, et al. An implementation intervention to encourage healthy eating in centre-based childcare services: impact of the Good for Kids Good for Life programme. *Public Health Nutrition.* 2014;18(9):1610-9.

36 Wyse R, Wolfenden L, Campbell E, Brennan L, Campbell KJ, Fletcher A, et al. A cluster randomised trial of a telephone based intervention for parents to

increase fruit and vegetable consumption in their 3 to 5-year-old children: study protocol. *BMC Public Health.* 2010;10(1):216.

37 Finch M, Wolfenden L, Morgan PJ, Freund M, Wyse R, Wiggers J. A cluster randomised trial to evaluate a physical activity intervention among 3-5-year-old children attending long day care services: study protocol. *BMC Public Health.* 2010;10(1):534.

38 Ribisl KM, Walton MA, Mowbray CT, Luke DA, Davidson WS, Bootsmiller BJ. Minimizing participant attrition in panel studies through the use of effective retention and tracking strategies: review and recommendations. *Evaluation and Program Planning.* 1996;19(1):1-25.

39 National Health and Medical Research Council. Australian Dietary Guidelines. Canberra, Australia, Australian Government Department of Health, 2013.

40 Australian Government Department of Health. National physical activity recommendations for children 0–5 years olds. Canberra, Australia, Australian Government Department of Health, 2010.

41 Pagnini D, Wilkenfeld R, King L, Booth M, Booth S. The weight of opinion: the early childhood sectors perceptions about childhood overweight and obesity. Sydney, Australia, NSW Centre for Overweight and Obesity, 2006.

42 Grimshaw JM, Eccles MP, Lavis JN, Hill SJ, Squires JE. Knowledge translation of research findings. *Implementation Science.* 2012;7(1):1.

43 Grimshaw JM, Thomas RE, Maclennan G, Fraser C, Ramsay CR, Vale L, et al. Effectiveness and efficiency of guideline dissemination and implementation

strategies. *International Journal of Technology Assessment in Health Care.* 2005;21(1):149.

44 Grimshaw JM, Shirran L, Thomas R, Mowatt G, Fraser C, Bero L, et al. Changing provider behavior: an overview of systematic reviews of interventions. *Medical Care.* 2001;39:112-45.

45 Bero LA, Grilli R, Grimshaw JM, Harvey E, Oxman AD, Thomson MA. Closing the gap between research and practice: an overview of systematic reviews of interventions to promote the implementation of research findings. *British Medical Journal.* 1998;317(7156):465-9.

46 Yamey G. Scaling Up global health interventions: a proposed framework for success. *PLOS Medicine.* 2011;8(6):e1001049.

47 Rohrbach LA, Grana R, Sussman S, Valente TW. Type II translation: transporting prevention interventions from research to real-world settings. *Evaluation and the Health Professional.* 2006;29(3):302-33.

48 Soumerai SB, Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. *Journal of the American Medical Association.* 1990;263(4):549-56.

49 Rohrbach LA, Graham JW, Hansen WB. Diffusion of a school-based substance abuse prevention program: Predictors of program implementation. *Preventive Medicine.* 1993;22:237-60.

50 Grol R, Wensing M. What drives change? Barriers to and incentives for achieving evidence-based practice. *Medical Journal of Australia.* 2004;180:S57-60.

51 Jurgis K, Calkins E, Feather J, Hershey CO, Katz L, Majeroni B. Enhancing physician adoption of practice guidelines: dissemination of influenza vaccination guideline using a small- group consensus process. *Archives of Internal Medicine.* 1995;155(6):625-32.

52 Oxman AD, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 trials of interventions to improve professional practice. *Canadian Medical Association Journal.* 1995;153(10):1423-31.

53 Forsetlund L, Bjørndal A, Rashidian A, Jamtvedt G, O'Brien MA, Wolf F, et al. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews.* 2009; Issue 2: CD003030.

54 Read C, Kleiner B. Which training methods are effective? *Management Development Review.* 1996;9(2):24-9.

55 Joyce B, Showers B. Improving inservice training: the messages of research. *Educational Leadership.* 1980;37(5):379-85.

56 O'Brien M, Rogers S, Jamtvedt G, Oxman AD, Odgaard-Jensen J, Kristofferson DT, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews.* 2007; Issue 4: CD000409.

57 Alvero A, Bucklin BR, Austin A. An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985–1998). *Journal of Organizational Behavior Management.* 2001;21(1):3-29.

58 Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, et al. Audit and feedback: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews.* 2012; Issue 6: CD000259.

59 Noar SM, Benac CN, Harris MS. Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin.* 2007;133(4):673-93.

60 Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science.* 2009;4(1):1.

61 Sanders MR, Cann W, Markie-Dadds C. The Triple P-Positive Parenting Programme: a universal population-level approach to the prevention of child abuse. *Child Abuse Review.* 2003;12(3):155-71.

62 Ammerman AS, Ward DS, Benjamin SE, Ball SC, Sommers JK, Molloy M, et al. An intervention to promote healthy weight: Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) theory and design. *Preventing Chronic Disease.* 2007;4(3):A67.

63 Benjamin SE, Neelon B, Ball SC, *et al*. Reliability and validity of a nutrition and physical activity environment self-assessment for childcare. *International Journal of Behavioural Nutrition and Physical Activity.* 2007;4(1):1-10.

64 Henderson KE, Grode GM, Middleton AE, Kenney EL, Falbe J, Schwartz MB. Validity or a measure to assess the child-care nutrition and physical activity

environment. *Journal of the American Dietetic Association.* 2011;111(9):1306–13.

65 Porta N, Bone C, Cobo E. Discordance between reported intention-to-treat and per protocol analyses. *Journal of Clinical Epidemiology.* 2007;60(7):663-9.

66 White IR, Horton NJ, Carpenter J, Pocock SJ. Strategy for intention to treat analysis in randomised trials with missing outcome data. *British Medical Journal.* 2011;342:d40.

CHAPTER 5

Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial

A version of this chapter was published in Implementation Science.

Jones J, Wyse R, Finch M, Yoong SL, Lecathelinais C, Wiggers J, Marshall J, Falkiner M, Pond N, Yoong SL, Hollis J, Fielding A, Dodds P, Clinton-McHarg T, Freund M, McElduff P, Gillham K, Wolfenden L. Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial. *Implementation Science.* 2015;10:147. doi: 10.1186/s13012-015-0340-z

CHAPTER OVERVIEW

Chapter 5 consists of the findings of a randomised controlled trial that aimed to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services.

ABSTRACT

Background: The primary aim of this study was to evaluate the effectiveness of an intervention to increase the implementation of healthy eating and physical activity policies and practices by centre-based childcare services. The study also sought to determine if the intervention was effective in improving child dietary intake and increasing child physical activity levels while attending childcare.

Methods: A parallel group, randomised controlled trial was conducted in a sample of 128 childcare services. Intervention strategies included provision of implementation support staff, securing executive support, staff training, consensus processes, academic detailing visits, tools and resources, performance monitoring and feedback and a communications strategy. The primary outcome of the trial was the proportion of services implementing all seven healthy eating and physical activity policies and practices targeted by the intervention. Outcome data were collected via telephone surveys with service managers and room leaders at baseline and immediately post-intervention. Secondary trial outcomes included the differences between groups in the number of serves of each food group within the Australian Guide to Healthy Eating consumed by children, and in the proportion of children engaged in sedentary, walking or very active physical activity as assessed via observation in a random subsample of 36 services at follow-up.

Results: There was no significant difference between groups for the primary trial outcome (p=0.44) (the change in proportion of services implementing all seven policies and practices). Relative to the control group, a significantly larger proportion of intervention group services reported having a written nutrition and physical activity policy (p=0.05) and providing adult-guided activities to develop fundamental movement skills (p=0.01). There were no significant differences between groups at follow-up on measures of child dietary intake or physical activity.

Conclusions: The findings of the trial were equivocal. While there was no significant difference between groups for the primary trial outcome, the intervention did significantly increase the proportion of intervention group services implementing two of the seven targeted healthy eating and physical activity policies and practices. High levels of implementation of a number of policies and practices at baseline, significant obesity prevention activity in the study region and higher than previously reported intra-class correlation of child behaviours may, in part, explain the trial findings.

Trial registration number: Australian Clinical Trials Registry ACTRN12612000927820

BACKGROUND

Overweight and obesity in childhood increases the likelihood of adult obesity and its comorbidities, including cardiovascular disease, type 2 diabetes and certain cancers.[1,2] Inadequate physical activity and poor nutrition are key risk factors for overweight and obesity, with such risk behaviours beginning to develop in the early years of a child's life, prior to commencing formal schooling.[3] As such, population-level interventions that aim to increase physical activity and improve diet quality during early childhood have been recommended.[3-8]

Childcare services are an important setting for the delivery of obesity prevention interventions, given their potential to support population- level improvements in child diet and physical activity.[9] In countries such as Australia, the US and the UK, over half of all children aged 0 to 5 years spend a large proportion of their waking hours each day in centre-based childcare services.[9-12] Best practice guidelines[13,14] as well as standards for licensing and accreditation[15] recommend that childcare services implement policies and practices known to improve the quality of children's diet and increase the time children spend being physically active while in care. Specifically, such guidelines recommend that services develop centre-based nutrition and physical activity policies, implement guidelines for foods brought from home or provided by the service, provide structured fundamental movement skill activities, ensure staff role model healthy eating and physical activity behaviours, limit the provision of sweetened drinks and limit opportunities for screen time.[13,14,16,17] Such recommendations are

supported by empirical research which suggests that implementation of such policies and practices improve child diet and physical activity while in care and can prevent excessive weight gain.[18-20]

Despite evidence to support the effectiveness of such guidelines, research suggests that their implementation by childcare services is substandard. Studies from the US found that less than 60% of childcare services had a written physical activity policy[14] with some services providing food which contributed less than 17% of children's recommended dietary intake for vegetables.[21] Similarly, Australian research suggests that less than 50% of childcare services have a written physical activity policy,[22] only 46-60% of services programme time each day for fundamental movement skill development[22] and less than 5% of childcare services provide adequate serves of vegetables, as recommended by national dietary guidelines.[23] Further, 25% of Australian childcare services provide daily opportunities for sedentary screen time,[22] 48% provide sweetened drinks[24] and 60% allow children to bring lunchboxes containing more than one serve of high fat, salt or sugary foods or drinks.[25]

Prior to the commencement of this study, the authors were aware of three randomised controlled trials that have been conducted with the aim of increasing the implementation of healthy eating and physical activity policies and practices in childcare services catering for children aged 3 to 5 years. The trials were conducted from 2008 to 2014 in the US and Australia and involved between 17 and 82 childcare services.[26-28] Two of the trials sought to implement the US Nutrition and Physical

Activity Self-Assessment for Child Care programme using a variety of implementation strategies including environmental self-assessment, selection of areas for change, educational workshops for childcare service staff and parents, targeted technical assistance, consultation visits and printed resources.[26,28] Evaluated using an environmental observation score, both failed to significantly increase service implementation of nutrition and physical activity practices,[26,28] but one significantly improved the quantity and quality of service nutrition and physical activity policies.[28] The third trial delivered an intervention comprising of professional development for childcare staff, resources and access to health promotion staff.[27] Hardy and colleagues significantly increased the frequency of fundamental movement skill sessions, yet there were no between-group differences on five other measures of the physical activity environment, nor was the intervention successful in achieving change to service food policies or in-service food activities.[27]

While several frameworks exist to guide the development and implementation of interventions to more effectively increase the implementation of policies and practices in childcare (for example[29,30]), few randomised trials have been conducted to assess the effectiveness of implementation strategies in this setting. Implementation research conducted in clinical settings has found that trials utilising multiple intervention strategies and guided by theory are more likely to be effective in changing practice.[31] More extended periods of intervention support have been recommended to increase effectiveness.[27] However, previous trials conducted in the childcare setting have either utilised a limited number of such strategies,[27] trialled interventions without the

guidance of theoretical frameworks,[27,28] or were delivered over a short period of time (less than 7 months).[26-28] Further, two of the three studies delivered interventions to only a small number of childcare services (15 services or less), limiting their capacity to guide approaches aimed at achieving population-level service improvements.[27,28]

The primary aim of the trial was to assess whether a multi-component intervention, delivered over 12 months was effective in increasing the proportion of centre-based childcare services implementing healthy eating and physical activity policies and practices. The study also sought to determine if the intervention was effective in improving child dietary intake and increasing child physical activity levels while attending childcare and, as a potential adverse effect, if it increased the occurrence of injury among staff or children.

METHODS

The trial was funded by the Australian National Preventive Health Agency (reference 95WOL2011) and was prospectively registered with the Australian New Zealand Clinical Trials Registry (reference ACTRN12612000927820). Ethical approval to conduct the study was obtained from the Hunter New England (reference 12/08/15/5.01) and the University of Newcastle (reference H-2012-0321) Human Research Ethics committees (Appendix 2.1). The research is reported in accordance with the requirements of CONSORT Statement.[32]

Design and setting

A detailed protocol for the trial has been published elsewhere.[33] A parallel group randomised controlled trial was conducted in 128 centre-based childcare services in the Hunter region of New South Wales, Australia, from August 2012 to July 2014.

Participants

Centre-based childcare services included preschools and long day care services. Services in the region were ineligible if they: catered exclusively for children requiring specialist care (less than 1% of services), provided all on-site meals to children (approximately 30% of services) or were fully government funded (approximately 3% of services), as the ethical clearance and intervention design were not appropriate for such services.

Recruitment procedures

Service managers at all eligible services were mailed an information letter (Appendix 4.1) and were then contacted by a research assistant and invited to provide consent:

4. for their service to participate in the study;
5. for their own participation in a computer-assisted telephone interview (CATI) survey and;
6. for one of their room leaders (head teacher caring for 3 to 5 year-old children) to be contacted and invited to participate in a CATI survey.

A subsample of service managers were randomly selected by a research assistant using a random number function and invited to provide consent for their service to participate in a one-day, post-intervention observation to assess child dietary intake and physical activity behaviours.

Randomisation and allocation

Following the completion of baseline data collection, childcare services were randomly allocated to either the intervention or control condition by a research assistant using a random number function in a 1:1 (intervention:control) ratio. Services were not blind to study allocation.

Intervention group

Briefly, the 12-month intervention aimed to increase childcare service implementation of healthy eating and physical activity policies and practices. The policies and practices were developed based on best practice Australian healthy eating and physical activity guidelines for the childcare setting[13] and those shown to be associated with child healthy eating and physical activity behaviours.[16,17] The healthy eating and physical activity policies and practices implemented by services included the following:

1. Development of written nutrition and physical activity policies
2. Staff monitoring of children's lunchboxes every day against written nutritional guidelines and provision of feedback to parents when a non-compliant food was packed

3. Provision of water or reduced fat milk (for children over the age of 2 years) only
4. Staff role modelling of physically active play and healthy eating every day
5. Staff provision of prompts and positive comments to children to encourage physical activity and healthy eating every day
6. Provision of adult-guided fundamental movement skill development activities every day for at least 75% of children
7. Restriction of sedentary screen time to less than weekly.

The design of the intervention to support implementation of the policies and practices utilised Damschroder's Consolidated Framework for Implementation Research.[34] The Framework integrates 19 theoretical models and is composed of five major domains identified as influential in successful intervention implementation. The application of the relevant constructs to the intervention has been published as part of the study protocol.[33] The intervention consisted of eight evidence-based strategies to facilitate childcare service implementation of the healthy eating and physical activity policies and practices.[35-39] The intervention strategies included the following:

Implementation support staff:[40]

The research team provided each service with a support staff member who provided ongoing implementation support and positive reinforcement via face-to-face visits, telephone and email contact. Implementation support staff members had tertiary qualifications in nutrition and dietetics, health education and psychology and had previous experience in delivering similar initiatives in the childcare setting.

Securing executive support:[41,42]

Service managers were asked to lead the development and implementation of nutrition and physical activity policies, co-facilitate training workshops with implementation support staff and communicate expectations regarding the implementation of policies and practices to childcare service staff during staff meetings.

Provision of staff training:[43]

A series of three one-hour training workshops which focused on policy and practice implementation were provided onsite to childcare service staff and included both didactic and interactive components (Appendix 4.2).

Employment of consensus processes:[35,44]

Following each staff training workshop (Appendix 4.2), implementation support staff facilitated a discussion with service managers and childcare service staff to reach group agreement regarding an implementation strategy for the targeted policies and practices.

Provision of academic detailing visits:[45,46]

Following each staff training workshop, an academic detailing visit was conducted which involved support staff observing and providing immediate feedback to childcare service staff as they implemented the practices targeted by the intervention (Appendix 4.3).

Provision of tools and resources:[40]

All services received an electronic and hardcopy package of tools and resources to support childcare service staff to implement the healthy eating and physical activity policies and practices (Appendix 4.4).

Performance monitoring and feedback:[47,48]

Verbal and written feedback describing service progress toward implementation of the targeted policies and practices was delivered at six intervals throughout the 12-month intervention, with feedback based on information collected via the baseline CATI, telephone contacts and face-to-face visits.

Employment of a communications strategy:[49]

Services received hard copy and electronic bimonthly newsletters which communicated key messages relating to the healthy eating and physical activity policies and practices (Appendix 4.5). Services that implemented all policies and practices received a certificate of recognition, were acknowledged in newsletters and were used as case study examples.

Control group

Participating services randomised to the control group received three newsletters at the commencement, midpoint and conclusion of the 12-month intervention. The

newsletters were provided in hard copy and electronic formats and contained information on healthy eating and physical activity unrelated to the specific policies and practices targeted by the intervention (for example information on dietary guidelines and physical activity recommendations for children, healthy recipe ideas and suggested resources). Control group services did not receive any other intervention from the research team during the study period.

Data collection and measures

Surveys administered via CATI were conducted with the service managers and a room leader caring for children 3 to 5 years of age (Appendix 4.6; Appendix 4.7; Appendix 4.8; Appendix 4.9). Baseline data collection occurred between August and November 2012 and assessed childcare service characteristics and healthy eating and physical activity policies and practices. Follow-up CATI surveys were conducted immediately post-intervention between May and July 2014 and assessed healthy eating and physical activity policies and practices, staff and child injury, and in the intervention group, the acceptability of the intervention.

Service characteristics

Service managers were asked to report on the following: service days and hours of operation, type of service (preschool or long day care service), postcode, number of enrolled and attending children, number of primary contact teaching staff and whether any Aboriginal and/or Torres Strait Islander children were enrolled. The items used to

assess service characteristics have been used in other Australian surveys of childcare services conducted by the research team.[22,24,50]

Primary trial outcome: Healthy eating and physical activity policy and practice implementation

The primary trial outcome was the difference over time between groups in the proportion of services implementing all seven healthy eating and physical activity policies and practices. The primary trial outcome represents service achievement of "best practice", maximising the potential of the service to support child healthy eating and physical activity.

Both service managers and room leaders were asked to report on their service's implementation of the seven healthy eating and physical activity policies and practices using items validated in a previous sample of 42 Australian childcare services.[51] Service managers were asked to report on the implementation of whole-of-service policies and practices. Room leaders were asked to report on the implementation of specific healthy eating and physical activity policies and practices within their room. Each survey item and its respective percent agreement and Kappa value (*K*) are listed below in order to provide an indication of the level of agreement between service manager/room leader report and independent observation.[51]

1. Presence of written nutrition (75%, *K*=0.50) and physical activity policies (79%, *K*=0.59)
2. Staff monitoring of children's lunchboxes against written nutritional guidelines

(84%, *K*=0.69) and provision of feedback to parents when a non-compliant food is packed (68%, *K*=0.34)

3. Provision of water (89%, *K*=0.78) or reduced fat milk only (79%, *K*=0.57) to children
4. Staff role modelling of physically active play (69%, *K*=0.39) and healthy eating (94%, *K*=0.89) every day
5. Staff provision of prompts and positive comments to children to encourage physical activity (80%, *K*=0.60) and healthy eating (86%, *K*=0.71) every day
6. Provision of adult-guided fundamental movement skill development activities (53%, *K*=0.06) every day to at least 75% of children (60%, *K*=0.20)
7. Restriction of sedentary screen time (58%, *K*=0.17) to less than weekly.

Secondary trial outcomes

In order to assess if the hypothesised improvements in implementation of the healthy eating and physical activity policies and practices was sufficient to yield improvements to child diet and physical activity while attending childcare, observations of child dietary intake and physical activity levels were undertaken. The one-day observation was conducted during core service hours (9.00am to 3.00pm) in a random subsample of intervention and control group childcare services at follow-up. One of four trained observers attended each service to observe both child dietary intake and physical activity during the one-day observation. Observers did not participate in the delivery of the intervention and were blind to service group allocation.

Child dietary intake

Secondary trial outcomes included the differences between groups at follow-up in the mean number of serves consumed by children for each food group within the Australian Guide to Healthy Eating (vegetables, fruit, grains, meat and meat alternatives, milk, yoghurt and cheese and discretionary foods). Child dietary intake was assessed during the one-day observation using a modified version of the Dietary Observation for Child Care protocol (Appendix 2.5).[52] The Dietary Observation for Child Care is a validated method for recording child level dietary intake in 2 to 5 year-olds[52] and has been used extensively in the childcare setting.[21,53,54] Dietary intake was assessed in three children per service by an observer who visually estimated and recorded all types and portions of foods and drinks provided to and consumed by the children, along with amounts remaining after finishing a meal or snack.[52] This was recorded for every food or drink item supplied by parents in the child's lunchbox and offered to the child during the observation period. The children were randomly selected by asking the room leader at each service to identify the three children with the most recent birthdays. Following the completion of the observation, the numbers of serves for each of the Australian Guide to Healthy Eating food groups was generated by a qualified dietitian. The number of serves consumed for each food group was calculated using the weight of the food according to a nutrient database[55] and the standard serve size of the food according to the Australian Guide to Healthy Eating.[56] Discretionary foods were classified using the Australian Guide to Healthy Eating with reference to the Australian Bureau of Statistics Discretionary Food List where unclear.[57]

Observers were trained according to the Dietary Observation for Child Care protocol (Appendix 2.4).[52] Prior to undertaking the observations, the observers completed a 20 food certification test. The observer results were compared to the actual measured amounts of foods and a tolerance level was set for each of the 20 items. The observers correctly described more than 90% of items within the test and reached between 75 and 100% agreement with actual measured amounts for the 20 food and drink items.

Child physical activity

Secondary trial outcomes included the differences between groups at follow-up in the proportion of children engaged in sedentary, walking or very active physical activity during all observations, structured physical activity and outdoor free play sessions. Child physical activity levels were assessed at the same one-day observation by the same observer, using a modified version of the System for Observing Play and Leisure in Youth (SOPLAY) tool and protocol (Appendix 2.5).[58] SOPLAY is a standardised instrument for assessing physical activity levels in recreational settings using systematic, momentary time sampling of a predetermined area.[58] SOPLAY has been found to be both valid and reliable in school-aged children[59] and has been previously used to assess physical activity in the childcare setting.[60] The observer conducted scans and coded all structured physical activity and outdoor free play sessions that occurred between 9.00am and 3.00pm at each service. Prior to the commencement of each physical activity session, observers recorded key aspects of the physical environment including location (inside or outside), type of session (structured physical activity or free play), scan start time and any equipment available for use. During each scan, the

observers assessed the level of child physical activity by counting the number of children engaged in sedentary, walking or very active physical activity in 10 minute intervals for the duration of each session.

Observers were trained according to the standardised SOPLAY protocol (Appendix 2.4).[58] The SOPLAY assessment DVD was used to assess each observer's ability to independently scan and code physical activity levels quickly and accurately. Of the 28 video clips in the assessment, observers must have correctly counted the number of people engaged in either sedentary, walking or very active activity in each clip to receive one point. Scores ranged between 61 and 71%.

Other measures

Adverse effects - staff and child injury

Given an increase in child physical activity levels could potentially increase the risk of child injury,[61] service managers in both the intervention and control groups were asked to report on the number of staff and children involved in adverse events in their service. Adverse events were defined as injuries requiring documentation during the previous 12 months.

Acceptability of the intervention

Service managers and room leaders in the intervention group were asked to respond on a four-point Likert scale (strongly agree, agree, disagree, strongly disagree) to a series of statements assessing the acceptability of the intervention resources, training and support provided to services.

Delivery of the intervention

The delivery of each of the eight intervention strategies was assessed by an independent research assistant using project records maintained by each implementation support staff member.

Blinding of CATI interviewers

CATI interviewers did not participate in the delivery of the intervention and were blind to service group allocation. To assess whether blinding was maintained, after collection of follow-up data, interviewers were asked to nominate the group to which they thought the service had been allocated.

Context

For descriptive purposes and to aid an assessment of any external influences on the trial findings, a systematic search was conducted to describe the context in which the trial was conducted.[62,63] Local news archives, websites of national and New South Wales health and education departments, accreditation standards and national healthy eating and physical activity guidelines were reviewed to identify the existence of, or changes in, government policy, standards, funded programmes, or guidelines that may influence the healthy eating and physical activity environments of childcare services. The search included the 12 months prior to and during the 12-month intervention.

Sample size calculations

Primary trial outcome

Based on previous research, a 20% study attrition rate of services was anticipated.[50] Given this, recruitment of 128 services into the trial at baseline would be sufficient to provide follow-up data from approximately 102 childcare services (51 per group) and enable the detection of an absolute difference between groups in the proportion of services implementing all policies and practices of 27% with 80% power and an alpha value of 0.05. This was based on an expected prevalence of control group services implementing all policies and practices at follow-up of 25%.

Secondary trial outcomes

Assuming a consent rate of 80%, inviting a random sub-sample of 42 services to participate in the post-intervention observations would be sufficient to provide data from approximately 34 childcare services (17 services per group). This would enable the detection of an absolute difference between groups in very active physical activity of 4.3% with 80% power, an alpha of 0.05 and based on an intra-class correlation coefficient (ICC) of 0.02. This was based on estimations of four physical activity sessions per service, four 10 minute scans per session and 20 children per 10 minute scan. This sample was also sufficient to detect an absolute difference between groups in the mean number of serves for each food group of 0.3 serves with 80% power, an alpha of 0.05 and based on an ICC of 0.02. This was based on estimations of three children being observed at each service (51 children per group) and a standard

deviation of 0.5.

Statistical analyses

All statistical analyses were performed using SAS (version 9.3) statistical software. All statistical tests were two tailed with an alpha value of 0.05.

Service characteristics

Descriptive statistics were used to describe the service characteristics of intervention and control group services at baseline. Socioeconomic characteristics were determined using service postcodes, which were classified as being in the top or bottom 50% of New South Wales according to the Socioeconomic Indices for Areas (SEIFA). Geographic characteristics of the service locality were classified as either urban or rural according to the Australian Statistical Geography Standard.

Healthy eating and physical activity policy and practice implementation

The primary trial outcome was analysed under an intention-to-treat framework using all available data. A logistic regression model was developed to determine group-by-time changes in the proportion of services implementing all healthy eating and physical activity policies and practices from baseline to follow-up. The logistic regression model included terms for time, group (intervention or control) and group-by-time interaction. A sensitivity analysis was performed by imputing baseline observations at follow-up for missing data. The same method of analysis (using six

separate logistic regression models) was used to assess group-by-time changes in the following subgroups: service type (preschool or long day care service), socioeconomic characteristics (top or bottom 50% of New South Wales) and geographic characteristics (urban or rural). As the study was not powered to test any hypotheses relating to such subgroups, these results are provided for descriptive purposes only. The following post-hoc exploratory analyses were also performed. First, separate logistic regression models were used to determine group-by-time changes in the proportion of services implementing each of the individual policies and practices from baseline to follow-up. Second, a linear regression model was used to assess whether there was a significant difference over time between groups in the mean number of policies and practices implemented.

Child dietary intake

The amount of food consumed by each child was calculated using the food consumption equation, defined as: amount served less (amount remaining ± amount wasted or added).[52] Descriptive statistics were used to assess child dietary intake data according to each of the Australian Guide to Healthy Eating food groups. A linear regression model was used to assess whether there was a significant difference between groups at follow-up in the mean number of serves for each food group (vegetables; fruit; grains; meat and meat alternatives; milk, yoghurt and cheese and discretionary foods). The model was adjusted for potential clustering effect.

Child physical activity

Descriptive statistics were used to assess the proportion of observations of the children's physical activity levels. A logistic regression model was developed to assess whether there was a significant difference between groups at follow-up in the proportion of children engaged in sedentary, walking or very active physical activity. A generalised estimating equation (GEE) framework was utilised to account for potential clustering effects of the service (level one) and the SOPLAY session (level two). Analyses were performed on all observations, as well as on subgroups of the data including the type of physical activity (structured physical activity or outdoor free play session).

Acceptability of the intervention

Descriptive statistics were used to assess the delivery and acceptability of the intervention. Acceptability data was calculated using the percentage of service managers and room leaders that reported either "strongly agree" or "agree" to each item.

RESULTS

Service characteristics

Of the 253 childcare services in the study region, 128 (65%) service managers consented for their service to participate in the study. Of these, 120 services (95%) provided follow-up data (Figure 5.1). The baseline characteristics of intervention and

control group services that completed the CATI survey at both baseline and follow- up are described in Table 5.1. There were no differences between the characteristics of services that provided follow-up data and those that did not (p=0.22–p=1.00). A randomly selected subsample of 42 service managers were invited to participate in a one-day observation at follow-up, with 36 (86%) consenting. There were no differences between groups in the baseline characteristics of services that did, and did not consent to participate in the observations.

Primary trial outcome: Healthy eating and physical activity policy and practice implementation

There was no significant difference over time between groups in the proportion of services implementing all healthy eating and physical activity policies and practices, the primary trial outcome (p=0.44) (Table 5.2). Relative to the control group, a significantly larger proportion of intervention group services reported having a written nutrition and physical activity policy (p=0.05) and providing adult-guided fundamental movement skill development activities (p=0.01) (Table 5.3). There was a significant difference between groups in the mean number of healthy eating and physical activity policies and practices implemented over time, favouring the intervention group (p=0.05). Data from the subsample of services attended by observers at follow-up found significant improvement in the service implementation of staff role modelling of physically active play and healthy eating (p=0.05) but not for other policies or practices (p=0.27-p=0.96). There were no significant differences between the characteristics of

services that were implementing all healthy eating and physical activity policies and practices at baseline and those that were not (*p*=0.09-*p*=0.87).

Figure 5.1: Participant recruitment and retention by group

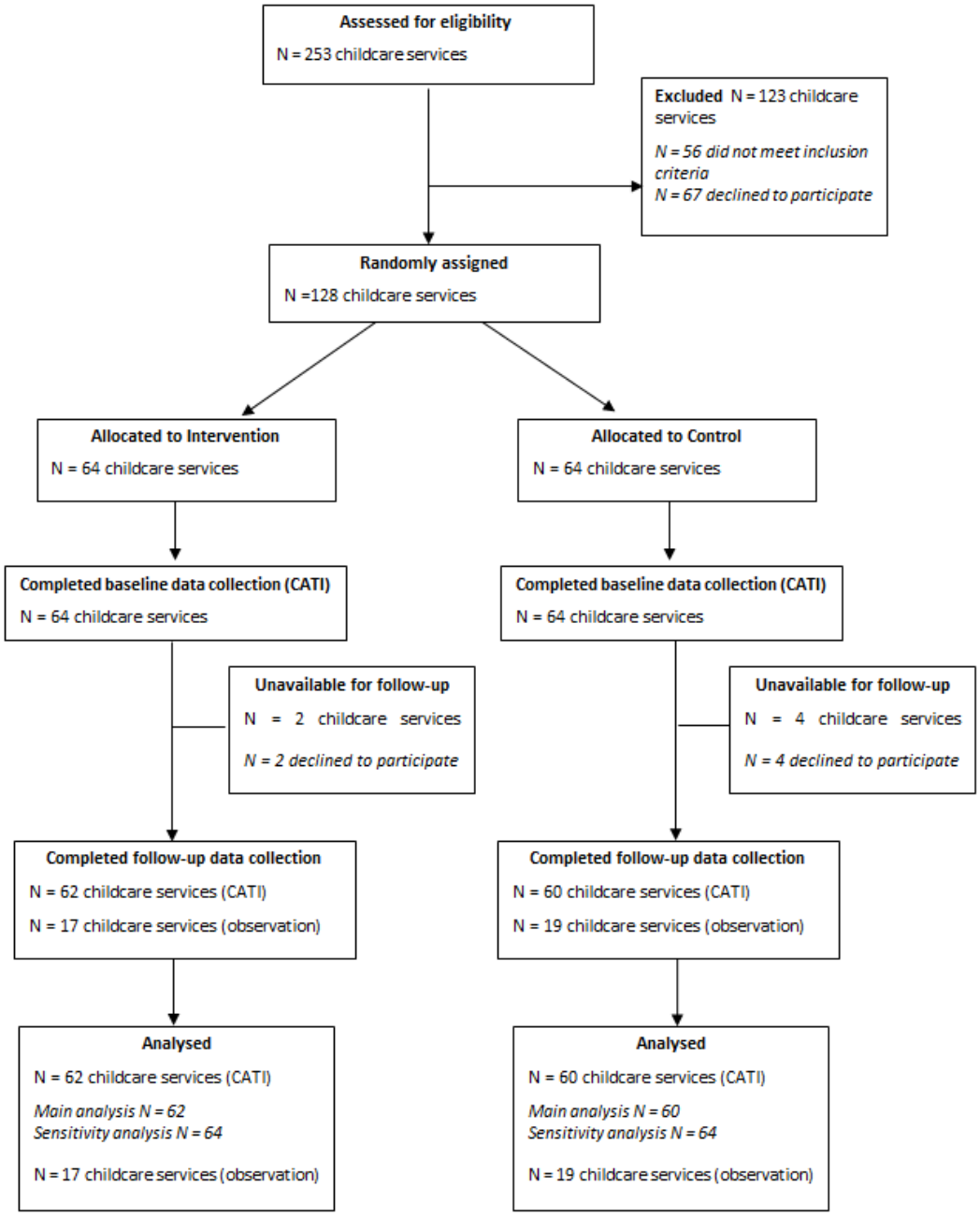


Table 5.1: Baseline characteristics of services included in the main outcome analyses by group

CHARACTERISTIC		INTERVENTION GROUP n=62		CONTROL GROUP n=60	
		%	95% CI	%	95% CI
Service operates 5 days per week	Yes	90	83, 98	98	95,100
Type of service[a]	Preschool	52	39, 64	53	41, 66
	Long day care service	50	37, 63	50	37, 63
Children of Aboriginal and/or Torres Strait Islander background enrolled	Yes	68	56, 80	78	67, 89
Service socioeconomic area	Top 50% of New South Wales	30	18, 42	27	16, 39
	Bottom 50% of New South Wales	70	58, 82	73	61, 84
Service geographical location	Urban	50	37, 63	59	46, 72
	Rural	50	37, 63	41	28, 53
		Mean	SD	Mean	SD
Hours of operation		8.7	2.0	8.7	1.7
Number of children enrolled		77.6	37.4	86.7	41.5
Number of primary contact teaching staff		7.3	4.1	8.8	4.6

[a] 5% of services identified as both a preschool and long day care service

Table 5.2: Change in proportion of services implementing all healthy eating and physical activity policies and practices over time by group – all services and by service type, socioeconomic characteristics and geographic characteristics

		INTERVENTION GROUP n=62				CONTROL GROUP n=60				ODDS RATIO (OR)	*p*-value
		Baseline		Follow-up		Baseline		Follow-up		Intervention group vs Control group	
		N	%	n	%	n	%	n	%	(95% CI)	
Main analysis	All services	15	24	27	44	12	20	22	37	1.33 (0.64, 2.76)	0.44
Sensitivity analysis	All services	15	23	27	42	13	20	23	36	1.29 (0.63, 2.64)	0.48
By service type	Preschool	8	25	12	38	10	31	13	41	0.89 (0.33, 2.45)	0.83
	Long day care service	7	23	15	48	3	10	11	37	1.67 (0.59, 4.73)	0.33
By socioeconomic characteristics	Top 50% of New South Wales	5	28	9	50	4	25	6	38	1.65 (0.42, 6.59)	0.48
	Bottom 50% of New South Wales	10	24	16	38	8	19	16	37	1.05 (0.44, 2.54)	0.91
By geographic characteristics	Urban	8	27	16	53	9	26	15	43	1.52 (0.57, 4.07)	0.40
	Rural	7	23	9	30	3	13	7	29	1.04 (0.32, 3.41)	0.95

Table 5.3: Changes in proportion of services implementing each of the healthy eating and physical activity policies and practices over time by group

	OUTCOME	INTERVENTION GROUP n=62				CONTROL GROUP n=60				*p*-value
		Baseline		Follow-up		Baseline		Follow-up		
		n	%	n	%	n	%	n	%	
1	Presence of written nutrition and physical activity policies	42	68	60	97	35	58	51	85	0.05
2	Staff monitoring of children's lunchboxes against written nutritional guidelines and provisions of feedback to parents when a non-compliant food is packed[a]	48	81	46	78	45	79	46	81	0.69
3	Provision of water or reduced fat milk only to children	52	84	57	91	54	90	53	88	0.32
4	Staff role modelling of physically active play and healthy eating every day	54	87	51	82	48	80	48	80	0.71
5	Staff provision of prompts and positive comments to children to encourage physical activity and healthy eating every day	58	94	54	87	56	93	52	87	0.95
6	Provision of adult-guided fundamental movement skill development activities every day to at least 75% of children	43	69	50	81	44	73	35	58	0.01
7	Restriction of sedentary screen time to less than weekly	57	92	58	94	54	90	55	92	0.75

[a] Excludes six services (three intervention and three control) that began providing on-site meals to children following the commencement of the intervention

Secondary trial outcomes

Child dietary intake

There were no significant differences between groups at follow-up in the mean number of serves consumed by children for each food group (p=0.14–p=0.96) (Table 5.4).

Child physical activity

There were no significant differences between groups at follow-up in the proportion of children engaged in sedentary, walking or very active physical activity during all observations (p=0.54), structured physical activity (p=0.64) and outdoor free play sessions (p=0.37) (Table 5.4).

Other measures

Adverse effects – staff and child injury

At follow-up in the intervention group, the mean number of staff injuries during the previous 12 months was 0.77 (95% CI 0.49–1.06) and mean number of serious child injuries was 0.72 (95% CI 0.39–1.05). In the control group, the mean number of staff injuries during the previous 12 months was 0.84 (95% CI 0.42–1.26) and mean number of serious child injuries was 0.90 (95% CI 0.52–1.29). There was no significant difference between groups in the mean number of staff (p=0.80) or child (p=0.47) injuries during the previous 12 months.

Acceptability of the intervention

All service managers, and 98% of room leaders, found the implementation support to be beneficial to their service (Table 5.5). Ninety-five percent of service managers and room leaders stated that ongoing implementation support would be useful, and just four service managers and three room leaders would have preferred less support throughout the 12-month intervention.

Table 5.4: Mean number of serves consumed by children for each food group within the Australian Guide to Healthy Eating and proportion of children engaged in sedentary, walking or very active physical activity by group at follow-up

		INTERVENTION GROUP n=41 children		CONTROL GROUP n=49 children		*p-value*
FOOD GROUP		**Mean serves**	**SD**	**Mean serves**	**SD**	
Vegetables		0.1	0.3	0.2	0.6	0.32
Fruit		1.1	1.1	0.8	0.7	0.14
Grains (breads and cereals)		1.6	0.5	1.4	0.8	0.28
Meat and meat alternatives		0.1	0.2	0.1	0.3	0.67
Milk, yoghurt and cheese		0.7	0.6	0.7	0.7	0.96
Discretionary foods		0.7	0.6	0.7	0.7	0.79
		n=17 services		**n=19 services**		*p-value*
PHYSICAL ACTIVITY LEVEL		**% of observations**	**95 % CI**	**% of observations**	**95 % CI**	
All observations	Sedentary	44.8	(41.5, 48.1)	49.2	(45.8, 52.5)	0.49
	Walking	29.1	(26.5, 31.7)	29.5	(27.2, 31.8)	
	Very active	26.1	(22.5, 29.8)	21.3	(17.7, 24.9)	
Structured physical activity	Sedentary	41.5	(31.1, 51.9)	41.4	(31.3, 51.4)	0.64
	Walking	18.2	(10.4, 26.1)	25.7	(19.0, 32.5)	
	Very active	40.3	(29.5, 51.0)	32.9	(23.1, 42.6)	
Outdoor free play	Sedentary	45.7	(42.4, 49.0)	51.1	(48.1, 54.2)	0.37
	Walking	32.1	(29.7, 34.5)	30.5	(27.9, 33.0)	
	Very active	22.2	(19.4, 25.1)	18.4	(15.3, 21.5)	

Table 5.5: Acceptability of the intervention strategies to service managers and room leaders included in the main outcome analyses

MEASURE (agree/strongly agree)	SERVICE MANAGERS n=62		ROOM LEADER n=62	
	n	%	n	%
Found the implementation support to be beneficial to their service	62	100	61	98
Found the face-to-face support to be acceptable	62	100	60	97
Found the telephone support to be acceptable	61	98	54	87
Found the training regarding healthy eating and physical activity beneficial for staff	62	100	60	97
Found the discussions following each training session to reach consensus on changes to healthy eating and physical activity practices at our service to be acceptable	62	100	59	95
Found the academic detailing sessions helpful	62	100	59	95
Found the resources provided useful	62	100	60	97
Found the performance feedback acceptable	62	100	57	92
Found the bimonthly newsletters acceptable	62	100	59	95
Felt comfortable talking to staff about changes to service healthy eating and physical activity policies and practices	62	100	61	98
Ongoing implementation support would be useful	59	95	59	95
Would have liked more support over the past 12 month	5	8	9	15
Would have liked less support over the past 12 months	4	6	3	5

Delivery of the intervention

Table 5.6 shows the proportion of childcare services in the intervention group that received each of the intervention strategies. All services were offered and accepted 12 months of implementation support via telephone contact from an implementation support staff member. Implementation support was staggered based on staffing availability from January 2013 to April 2014. Ninety-four percent of service managers demonstrated executive support for the trial via co-facilitation of training workshops with implementation support staff and participation in consensus processes. Seventy-seven percent of services received all three staff training workshops and 76% received all three academic detailing sessions.

A total of 69% of services received the full complement of all eight intervention strategies.

Blinding of CATI interviewers

At follow-up, interviewers correctly identified the services' group allocation in 70% (p=<0.001) of service managers surveys and 57% (p=0.68) of room leader surveys.

Context

Throughout the 12 months prior to, and during the 12-month intervention, two government guidelines that may have influenced the healthy eating and physical activity environments of childcare services were introduced. First, the Australian Dietary Guidelines (including the Australian Guide to Healthy Eating) were revised and released in February 2013.[56] Second, the National Accreditation Standards for the

childcare sector (The National Quality Framework) came into effect in the 12 months prior to intervention delivery (January 2012).[15] In addition to government guidelines, two government-sponsored programmes were identified. The first, a state-based programme known as 'Munch & Move', was implemented during the study period.[64] Project records show that 80% of intervention group services and 12% of control group services attended training in healthy eating and physical activity provided by the 'Munch & Move' programme during the study period. Secondly, Australia's largest community-based obesity prevention programme, known as 'Good for Kids. Good for Life' was conducted in the study region from 2006 to 2011.[65] Project records provided by the programme show 45% of intervention group services and 52% of control group services attended training in healthy eating and physical activity provided by the 'Good for Kids. Good for Life' programme during the period from 2006 to 2011.

Table 5.6: Extent of delivery of intervention strategies to intervention group childcare services included in the main outcome analyses

INTERVENTION STRATEGY	n=62	
	n	%
Implementation support staff		
Service received offer of support by implementation support staff	62	100
Executive support		
Service managers demonstrated executive support (co-facilitated training workshops with implementation support staff and participated in consensus processes)	58	94
Consensus processes		
Discussion following each staff training workshop occurred	60	97
Staff training		
Training session 1 delivered	60	97
Training session 2 delivered	55	89
Training session 3 delivered	48	77
Academic detailing		
Visit 1 delivered	60	97
Visit 2 delivered	56	90
Visit 3 delivered	47	76
Tools and resources		
Service distributed with relevant resources	62	100
Performance monitoring and feedback		
Service received feedback at six intervals throughout intervention	61	98
Communications strategy		
Bimonthly newsletters distributed	62	100
Service received recognition via certificate or case study in newsletter	59	95
Received all intervention strategies	43	69

DISCUSSION

Internationally, this is one of a small number of randomised controlled trials conducted to test an intervention aimed at increasing healthy eating and physical activity policy and practice implementation in childcare services. The study did not find a significant intervention effect on the primary trial outcome, the proportion of intervention group services implementing all seven policies and practices. However, the intervention significantly increased the proportion of intervention group services implementing two of these policies and practices (written nutrition and physical activity policy and provision of adult-guided activities to develop fundamental movement skills) and the mean number of policies and practices implemented.

The study findings are similar to that of the previously conducted randomised controlled trials in the childcare setting. Ward and colleagues found a non-significant improvement of 11% in service nutrition and physical activity environments, policies and practices; Hardy and colleagues demonstrated a significant improvement in the provision of one of the six physical activity practices targeted by the intervention (frequency of fundamental movement skills sessions per week increased from 1.3 to 3.2), and Alkon and colleagues found significant improvements in the quantity of service policies (mean policy score increased from 0.89 to 5.17 (nutrition) and 0 to 2.82 (physical activity) but no improvement in any of the 14 nutrition and physical activity practices targeted by the intervention.[26-28] It was anticipated that the current trial would yield an improvement of at least 20% in the primary trial outcome, given the

substantial increase in the number of intervention components, the duration of intervention support relative to past interventions, and evidence of similar effects sizes for implementation interventions of similar intensities in other settings.[66]

There are several factors that may have limited the effectiveness of the intervention on the primary trial outcome. First, the primary outcome was a composite measure, requiring implementation of all seven targeted policies and practices by services. However, five of the seven policies and practices were being implemented by 80% or more of intervention group services at baseline, limiting scope for further improvements. Second, the trial did not exclude services that were already implementing all policies and practices at baseline (24% of intervention services). For these services, the benefit of further intervention is likely to be minimal. Third, at follow-up, the proportion of control services implementing all policies and practices increased by 17%. Such substantial improvement in implementation in control groups has not been reported by other trials.[26-28] Context evaluation suggests that co-intervention in the control group and other important contextual factors such as the introduction of national dietary guidelines and the National Accreditation Standards occurring at the time of the trial may have facilitated policy and practice implementation in the control group, reducing the likelihood of an intervention effect. Finally, some policies and practices were particularly difficult for some services to implement. Anecdotally, for example, implementation support staff reported that most services that were not providing feedback to parents when non-compliant foods were packed found this practice to be particularly challenging, citing concerns about

adverse reactions from parents.

In the context of the limited impact of the intervention on implementation of policies and practices, it is perhaps unsurprising that the intervention did not yield significant improvements in child dietary intake or physical activity levels in care. However, while non-significant, the effect size achieved for child very active physical activity (greater than 4%) and fruit intake (greater than 1/3 of a serve) was consistent with the effect size on which the study had been powered to detect a priori. However, the ICC found in this study was far higher (0.34 for physical activity and 0.11 for fruit) than that which was predicted for the study (0.02) on which sample size calculations were based. The high ICC substantially reduced the effective sample size of the current study. Future studies using similar observational procedures to assess child diet and physical activity may require larger samples in order to detect clinically meaningful effects.

Strengths of the study include the trial's randomised design, delivery of the intervention to a large population of childcare services, high study retention and the inclusion of child behavioural measurements at follow-up. The inclusion of a comprehensive set of process measures also provided a rich source of information to interpret the study findings. However, a number of study limitations are worth noting. First, the study relied on the self-report of service managers and room leaders for the measurement of service policies and practices, which may have introduced biases such as social desirability bias. While the survey items have been validated in a sample of Australian childcare services, a number of practices had only slight, fair or moderate

agreement (kappa <0.6).[49] For example, while the intervention significantly increased the proportion of intervention group services implementing the provision of adult-guided activities to develop fundamental movement skills, this appeared to be where the greatest discrepancy between self-report and direct observation was detected. Future studies should look to conduct a more rigorous assessment of implementation, such as direct observation of service policies and practices. Second, the trial did not measure change in perceived barriers and enablers to implementing the policies and practices and, as such, any mechanisms that may have facilitated the outcome of the intervention could not be investigated. Third, the intervention was multi-component and the effectiveness of the individual intervention strategies was unable to be determined. Future studies could examine the effectiveness of individual intervention strategies. Fourth, process evaluation did not include an assessment of the timing of when childcare services implemented each policy or practice. As such, the exposure of individual children to each policy and practice is unknown, preventing any assessment of the impact of such exposure on child healthy eating and physical activity. Fifth, the study assessed child dietary intake and physical activity levels on one day at follow-up. Repeated dietary intake and physical activity observations conducted over multiple days may provide a more robust measure of these behaviours during attendance at childcare. Sixth, the study did not include services that provide onsite meals to children. Future research may consider evaluating the impact of an intervention targeting food provision practices specific to such childcare services.

CONCLUSION

Despite the limitations, the study represents an important contribution to the limited literature regarding the implementation of obesity prevention interventions in the childcare setting. The findings demonstrate that, among a group of services where policy and practice implementation was generally high at baseline, the investment of significant implementation support to achieve "best practice" implementation may not yield significant improvements in the proportion of services achieving this goal. Investment in implementation support, therefore, may be better directed at services where policy and practice implementation is poorer initially, and where there may be greater scope for improvement. Future research to test the effectiveness of the intervention on such services is warranted. Given the high acceptability of the intervention strategies, prospective interventions may consider utilising strategies that best address the reported barriers to policy and practice implementation. For example, the addition of intervention strategies to garner the support for healthy eating and physical activity policies and practices by parents and carers may improve the effectiveness of future interventions, given their influence on service operation and activities.[67] Finally, the intervention did improve some policies and practices, including the implementation of adult-guided activities to develop fundamental movement skills in children. An improvement in the implementation of fundamental movement skill activities was also noted in a randomised trial by Hardy and colleagues.[27] Common to both interventions was staff training, resources and the use of implementation support staff. Such findings suggest that these intervention strategies may be particularly

effective in supporting the implementation of this practice and should be retained in future interventions.

REFERENCES

1 World Cancer Research Fund/American Institute for Cancer Research. Food, nutrition, physical activity, and the prevention of cancer: a global perspective. London, World Cancer Research Fund/American Institute for Cancer Research, 2007. http://www.dietandcancerreport.org/cancer_resource_center/downloads/Second_Expert_Report_full.pdf

2 Ezzati M, Lopez A, Rodgers A, Murray C. Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors. Geneva, Switzerland, World Health Organization, 2004. http://www.who.int/ healthinfo/global_burden_disease/cra/en/

3 Birch LL, Ventura AK. Preventing childhood obesity: what works? International *Journal of Obesity*. 2009;33(Suppl 1):74-81.

4 Dietz WH. Critical periods in childhood for the development of obesity. *American Journal of Clinical Nutrition*. 1994;59(5):955-9.

5 Hesketh KD, Campbell KJ. Interventions to prevent obesity in 0–5 year olds: an updated systematic review of the literature. *Obesity*. 2010;18(S1):S27-35.

6 Goldfield GS, Harvey A, Grattan K, Adamo KB. Physical activity promotion in the preschool years: a critical period to intervene. *International Journal of Environmental Research and Public Health*. 2012;9(4):1326-42.

7 Swinburn B, Gill T, Kumanyika S. Obesity prevention: a proposed framework for translating evidence into action. *Obesity Reviews*. 2005;6(1):23-33.

8 World Health Organization. Population-based approaches to childhood obesity prevention. Geneva, Switzerland, World Health Organisation, 2012. http://apps.who.int/iris/bitstream/10665/80149/1/9789241504782_eng.pdf?ua=1

9 Story M, Kaphingst KM, French S. The role of child care settings in obesity prevention. *The Future of Children*. 2006;16:143-68.

10 Mamedova S, Redford J. Early Childhood Program Participation, from the National Household Education Surveys Program of 2012. Washington DC, US Department of Education, 2013.

11 Huskinson T, Pye J, Medien K, Dobie, S, Ferguson C, Gardner C, et al. Childcare and early years survey of parents 2011. UK, UK Department for Education, 2013.

12 Australian Bureau of Statistics. Experimental estimates of preschool education (No. 4240.0). Canberra, Australia, Australian Bureau of Statistics, 2011.

13 Commonwealth of Australia. Get Up and Grow Healthy Eating and Physical Activity for Early Childhood. Canberra, Australia, Commonwealth of Australia, 2013. http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-gug-staffcarers

14 McWilliams C, Ball SC, Benjamin SE, Hales D, Vaughn A, Ward DS. Best-practice guidelines for physical activity at child care. *Pediatrics*. 2009;124(6):1650-9.

15 Australian Children's Education and Care Quality Authority. National Quality Framework. Sydney, Australia, ACECQA, 2012.

http://acecqa.gov.au/national-quality-framework

16 Larson N, Ward DS, Neelon SB, Story M. What role can child-care settings play in obesity prevention? A review of the evidence and call for research efforts. *Journal of the American Dietetic Association*. 2011;111(9):1343-62.

17 McPherson ME, Homer CJ. Policies to support obesity prevention for children: a focus on of early childhood policies. *Pediatric Clinics of North America*. 2011;58(6):1521-41.

18 Trost SG, Fees B, Dzewaltowski D. Feasibility and efficacy of a "Move and Learn" physical activity curriculum in preschool children. *Journal of Physical Activity and Health*. 2008;5(1):88-103.

19 De Silva-Sanigorski AM, Bell AC, Kremer P, Nichols M, Crellin M, Smith M, et al. Reducing obesity in early childhood: results from Romp & Chomp, an Australian community-wide intervention program. *American Journal of Clinical Nutrition*. 2010;91(4):831-40.

20 Adams J, Zask A, Dietrich U. Tooty Fruity Vegie in Preschools: an obesity prevention intervention in preschools targeting children's movement skills and eating behaviours. *Health Promotion Journal of Australia*. 2009;20:112-19.

21 Ball S, Benjamin S, Ward D. Dietary intakes in North Carolina child-care centers: are children meeting current recommendations? *Journal of the American Dietetic Association*. 2008;108(4):718-21.

22 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell C, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child Health*. 2011;47(3):73-6.

23 Yoong S, Skelton E, Jones J, Wolfenden L. Do childcare services provide foods in line with the 2013 Australian Dietary guidelines? A cross-sectional study. *Australian New Zealand Journal of Public Health*. 2014;38:595-6.

24 Bell AC, Davies L, Finch M, Wolfenden L, Francis JL, Sutherland R, et al. An implementation intervention to encourage healthy eating in centre-based child-care services: impact of the Good for Kids Good for Life programme. *Public Health Nutrition.* 2014;18(9):1610-9.

25 Kelly B, Hardy LL, Howlett S, King L, Farrell L, Hattersley L. Opening up Australian preschoolers' lunchboxes. *Australian New Zealand Journal of Public Health*. 2010;34(3):288-92.

26 Ward DS, Benjamin SE, Ammerman AS, Ball SC, Neelon BH, Bangdiwala SI. Nutrition and physical activity in child care: results from an environmental intervention. *American Journal of Preventive Medicine.* 2008;35(4):352-6.

27 Hardy L, King L, Kelly B, Farrell L, Howlett S. Munch and move: evaluation of a preschool healthy eating and movement skill program. *International Journal of Behavioral Nutrition and Physical Activity.* 2010;7(1):80.

28 Alkon A, Crowley A, Neelon S, Hill S, Pan Y, Nguyen V, et al. Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. *BMC Public Health.* 2014;14:215.

29 Metz A, Naoom, SF, Halle T, Bartley L. An integrated stage-based framework for implementation of early childhood programs and systems (OPRE Research Brief OPRE 201548). US, Office of Planning, Research and Evaluation, Administration

for Children and Families, US Department of Health and Human Services, 2015. http://www.acf.hhs.gov/sites/default/files/opre/es_cceepra_stage_based_framework_brief_508.pdf

30 Halle T, Metz A, Martinez-Beck I. Applying implementation science in early childhood programs and systems. Baltimore, USA, Brookes Publishing Co, 2013.

31 Rabin BA, Glasgow RE, Kerner JF, Klump MP, Brownson RC. Dissemination and implementation research on community-based cancer prevention: a systematic review. *American Journal of Preventive Medicine*. 2010;38(4):443-56.

32 Schulz KF, Altman DG, Moher D. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *BMC Medicine.* 2010;8(1):1.

33 Jones J, Wolfenden L, Wyse R, Finch M, Yoong SL, Dodds P, et al. A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services. *BMJ Open*. 2014;4(4):e005312.

34 Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science.* 2009;4(1):1.

35 Bero LA, Grilli R, Grimshaw JM, Harvey E, Oxman AD, Thomson MA. Closing the gap between research and practice: an overview of systematic reviews of interventions to promote the implementation of research findings. *British Medical Journal.* 1998;317(7156):465-9.

36 Grimshaw JM, Thomas RE, Maclennan G, Fraser C, Ramsay CR, Vale L, et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. *International Journal of Technology Assessment in Health Care.* 2005;21(1):149.

37 Grimshaw JM, Eccles MP, Lavis JN, Hill SJ, Squires JE. Knowledge translation of research findings. *Implementation Science.* 2012;7(1):1.

38 Grimshaw JM, Shirran L, Thomas R, Mowatt G, Fraser C, Bero L, et al. Changing provider behavior: an overview of systematic reviews of interventions. *Medical Care.* 2001;39:112-45.

39 Yamey G. Scaling Up global health interventions: a proposed framework for success. *PLOS Medicine.* 2011;8(6):e1001049.

40 Rohrbach LA, Grana R, Sussman S, Valente TW. Type II translation: transporting prevention interventions from research to real-world settings. *Evaluation and the Health Professional.* 2006;29(3):302-33.

41 Rohrbach LA, Graham JW, Hansen WB. Diffusion of a school-based substance abuse prevention program: Predictors of program implementation. *Preventive Medicine.* 1993;22:237-60.

42 Jones R, Riethmuller A, Hesketh K, Trezise J, Batterham M, Okely A. Promoting fundamental movement skill development and physical activity in early childhood settings: a cluster randomized controlled trial. *Pediatric Exercise Science*. 2011;23:600-15.

43 Forsetlund L, Bjørndal A, Rashidian A, Jamtvedt G, O'Brien MA, Wolf F, et al. Continuing education meetings and workshops: effects on professional practice

and health care outcomes. *Cochrane Database of Systematic Reviews.* 2009; Issue 2: CD003030.

44 Oxman AD, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 trials of interventions to improve professional practice. *Canadian Medical Association Journal.* 1995;153(10):1423-31.

45 O'Brien M, Rogers S, Jamtvedt G, Oxman AD, Odgaard-Jensen J, Kristofferson DT, et al. Educational outreach visits: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews.* 2007; Issue 4: CD000409.

46 Soumerai SB, Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. *Journal of the American Medical Association.* 1990;263(4):549-56.

47 Alvero A, Bucklin BR, Austin A. An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985–1998). *Journal of Organizational Behavior Management.* 2001;21(1):3-29.

48 Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, et al. Audit and feedback: effects on professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews.* 2012; Issue 6: CD000259.

49 Noar SM, Benac CN, Harris MS. Does tailoring matter? Meta-analytic review of tailored print health behavior change interventions. *Psychological Bulletin.* 2007;133(4):673-93.

50 Finch M, Wolfenden L, Falkiner M, Edenden D, Pond N, Hardy L, et al. Impact of a population based intervention to increase the adoption of multiple physical activity practices in centre based childcare services: a quasi experimental, effectiveness study. *International Journal of Behavioral Nutrition and Physical Activity.* 2012;9(1):101.

51 Dodds P, Wyse R, Jones J, Wolfenden L, Lecathelinais C, Williams A, et al. Validity of a measure to assess healthy eating and physical activity policies and practices in Australian childcare services. *BMC Public Health.* 2014;14:572.

52 Ball S, Benjamin S, Ward D. Development and reliability of an observation method to assess food intake of young children in child care. *Journal of the American Dietetic Association*. 2007;107:656-61.

53 Gubbels J, Kremers S, Stafleu A, Dagnelie P, De Vries N, Thijs C. Child-care environment and dietary intake of 2-and 3-year-old children. *Journal of Human Nutrition and Dietetics.* 2010;23(1):97-101.

54 Erinosho T, Dixon L, Young C, Brotman L, Hayman L. Nutrition practices and children's dietary intakes at 40 child-care centers in New York City. *Journal of the American Dietetic Association*. 2011;111(9):1391-7.

55 Foodworks 7 Professional. Australia, Xyris Software Inc, 2012. http:// www.xyris.com.au/

56 National Health and Medical Research Council. Australian Dietary Guidelines. Canberra, Australia, Australian Government Department of Health, 2013.

57 Australian Bureau of Statistics. Australian Health Survey. Users' guide, 2011-13-discretionary food list. Canberra, Australia, Australian Bureau of Statistics, 2014. http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4363.0.55.0012011-13?OpenDocument

58 McKenzie T. SOPLAY system for observing play and leisure activity in youth. Description and procedures manual. San Diego, California, 2006. http://activelivingresearch.org/sites/default/files/SOPLAY_Protocols.pdf

59 Saint-Maurice PF, Welk G, Ihmels MA, Richards Krapfl J. Validation of the SOPLAY direct observation tool with an accelerometry-based physical activity monitor. *Journal of Physical Activity and Health.* 2011;8(8):1108.

60 Berg S. Children's activity levels in different playground environments: an observational study in four Canadian preschools. *Early Childhood Education Journal.* 2015;43(4):281-7.

61 Janseen I, LeBlanc A. Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity.* 2010;7:40.

62 Treweek S, Zwarenstein M. Making trials matter: pragmatic and explanatory trials and the problem of applicability. *Trials.* 2009;10:37.

63 Rothwell P. Factors that can affect the external validity of randomised controlled trials. *PLoS Clinical Trials.* 2006;1(10):e9.

64 NSW Ministry of Health. Munch & Move. Sydney, Australia, NSW Ministry of Health, 2015.

https://www.healthykids.nsw.gov.au/campaigns-programs/about-munch-move.aspx

65 Wiggers J, Wolfenden L, Campbell E, Gillham K, Bell C, Sutherland R, et al. Good for Kids. Good for Life. 2006-2010: Evaluation Report. Sydney, Australia, NSW Ministry of Health, 2013.

66 Nathan N, Wolfenden L, Bell A, Wyse R, Morgan P, Butler M, et al. Effectiveness of a multi-strategy intervention in increasing the implementation of vegetable and fruit breaks by Australian primary schools: a non-randomized controlled trial. *BMC Public Health.* 2012;12(1):651.

67 Wolfenden L, Finch M, Nathan N, Weaver N, Wiggers J, Yoong S, et al. Factors associated with early childhood education and care service implementation of healthy eating and physical activity policies and practices in Australia: a cross-sectional study. *Translational Behavioral Medicine*. 2015;5(3):327-34.

CHAPTER 6

Improving the impact of obesity prevention interventions in the childcare setting: the need for a systematic application of implementation science

A version of this chapter was published in the Journal of Paediatrics and Child Health.

Jones J, Yoong SL, Wyse R, Ward DS, Wolfenden L. Improving the impact of obesity prevention interventions in the childcare setting: the need for a systematic application of implementation science. *Journal of Paediatrics and Child Health.* 2017;53(3):211-13. doi:10.1111/jpc.13464.

CHAPTER OVERVIEW

The randomised controlled trial described in Chapters 4 and 5 did not find a significant intervention effect on the primary trial outcome, the proportion of intervention group services implementing all seven healthy eating and physical activity policies and practices. The study findings were similar to that of the previously conducted randomised controlled trials in the childcare setting, as identified in Chapter 3. If such interventions are to yield improvements in child health, adequate implementation is crucial. However, future research efforts must address the limitations of past research and overcome current deficiencies in the field of obesity prevention interventions in the childcare setting. Chapter 6 discusses the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting, including several key areas that should be the focus of future research efforts in the field.

ABSTRACT

The implementation of obesity prevention initiatives in childcare services is necessary in order to avert future health burdens. However, the impact of such interventions in the community in improving child health has been limited, in part, due to poor programme implementation. The systematic application of implementation science has considerable potential to enhance the impact of child obesity prevention interventions. However, little research has been undertaken in the childcare setting to improve implementation of evidence-based obesity prevention policies, practices and programmes. In this context we suggest future research efforts in the field focus on the following areas: i) research to understand the barriers to implementation of obesity prevention programmes and greater consideration of these in the development of programme implementation strategies; ii) improving the reporting of implementation strategies, processes and outcomes in research trials; and iii) the development of validated measures of theoretical constructs hypothesised to influence implementation. Such research will improve the likelihood that proven obesity prevention interventions in the childcare setting can be translated into the real world and contribute to improvements in child health.

BACKGROUND

The World Health Organization report of the Commission on Ending Childhood Obesity and other global agencies and international governments have suggested that the implementation of obesity prevention initiatives in settings such as childcare services is necessary in order to avert future health burdens.[1-3] The impact of such interventions in improving child health behaviours when delivered in the community, however, appears to be limited. A recent systematic review found childcare-based interventions delivered under tightly controlled research conditions (explanatory trials) improve child physical activity, however, those delivered under more real world contexts (pragmatic trials) do not.[4] The lack of effectiveness of interventions delivered in the real world is often attributed to poor implementation given the difficulties childcare services face when attempting to implement interventions as part of their usual service routines and responsibilities. For example, a randomised controlled trial of a government-led physical activity intervention conducted in Switzerland where 56 childcare services received training, funding, and ongoing group meetings to support implementation found that the intervention did not improve child physical activity.[5] Process evaluation of the programme suggested variable implementation of the intervention, undermining the potential to achieve positive health outcomes.[5] Poor implementation has also been reported by government funded childcare-based initiatives to prevent excessive weight gain in other jurisdictions,[6,7] and including the findings of the trial reported in Chapter 5 of this thesis.

Adequate implementation is a pre-requisite if effective interventions are to yield improvements in child health. However, little research is available to guide efforts to improve implementation of obesity prevention programmes.[8] Re-orienting research priorities to focus on the development of an implementation science for the childcare setting has been recommended to ensure interventions can be implemented in real world contexts with sufficient integrity to yield meaningful improvements in health.[9] Here we outline a number of areas we believe should be the focus of such research efforts.

1. GREATER CONSIDERATION OF BARRIERS TO IMPLEMENTATION

While there is an increasing volume of research describing the barriers reported by childcare services and their staff to implementing healthy eating, physical activity and obesity prevention initiatives,[10,11] most studies assess only a small number of largely individual-focused barriers (for example knowledge, skills and attitudes). Comprehensive, theoretical implementation frameworks suggest that implementation barriers occur at multiple levels, and pertain not only to individual staff motivation, knowledge, and skills, but also to socio-cultural, financial, and other organisational factors, including workplace culture, policies and facilities.[12-14] Such frameworks also suggest that a systematic approach to identifying barriers and selecting implementation strategies accordingly is required to maximise the likelihood of obesity prevention programme uptake and implementation.[12-14] Despite this, we are aware of

only one systematic review synthesising research describing implementation impediments in childcare.[15] Furthermore, barriers appear to be rarely identified and/or considered in efforts to improve programme implementation in childcare services. For example, of the eight trials included in a recent review of physical activity interventions implemented in real world contexts, none reported that potential barriers to intervention implementation were considered in their intervention or implementation strategy designs.[4] Without a thorough understanding of barriers, efforts to implement evidence-based programmes may be misguided.

2. IMPROVED REPORTING OF IMPLEMENTATION STRATEGIES

To maximise public health impact, policy makers and practitioners require not only effective childcare-based interventions, but also a strategy that is effective in achieving intervention implementation with sufficient fidelity to achieve health improvements.[16] While there are large numbers of trials reporting the effects of interventions in this setting on child diet, physical activity or adiposity, few trials report information describing the effects of strategies to improve implementation. For example, an updated Agency for Healthcare Research and Quality systematic review published in 2010 identified no trials to improve healthy eating or physical activity in the childcare setting,[17] and a recently published Cochrane review found just 10 such trials.[18] Furthermore, when implementation strategies are reported, descriptions are sparse and established taxonomies recommended to classify implementation strategies, such as the Cochrane Effective Practice and Organisation of Care (EPOC) taxonomy,[19] are

not applied. Without adequate reporting, synthesis of studies describing implementation strategies is difficult, as are attempts by policy makers or practitioners to replicate or adopt strategies that are reportedly successful.

3. THE DEVELOPMENT OF VALID MEASURES OF IMPLEMENTATION CONSTRUCTS

The use of comprehensive theoretical frameworks is recommended to guide the design and evaluation of strategies to improve implementation.[20] While a number of such theories exist,[12-14] few have psychometrically sound instruments to measure their constructs. We recently conducted a systematic review of measures, validated in non-clinical settings, of implementation constructs included in Damschroder's Consolidated Framework for Implementation Research; a framework encompassing five domains, 37 constructs and 19 implementation theories.[12] Of the over 3000 citations examined, we did not identify any studies examining the validity or reliability evidence of any constructs of Damschroder's Consolidated Framework for Implementation Research established in the childcare setting. Without such measurement tools, the benefit of using theories in improving the impact of implementation strategies will remain untested. Measures of theoretical constructs hypothesised to influence implementation are critical if we are to better understand implementation processes and improve the effectiveness of implementation strategies. Theoretically grounded use of analytical techniques such as mediation analysis would yield fundamental insights into how strategies improve programme implementation, but are of little

value without the existence of robust measures of factors thought to be associated with implementation.

RECENT DEVELOPMENTS

While there is much work to do to integrate implementation science into child obesity prevention initiatives in the childcare setting, efforts are underway. A number of implementation science theoretical frameworks and tools are being used to better understand implementation processes and guide the development of strategies to improve intervention implementation.[12,13,20-22] In addition to Damschroder's Consolidated Framework for Implementation Research, the Theoretical Domains Framework, informed by 128 explanatory constructs from 33 theories of behaviour change has recently been applied in the childcare setting to improve the implementation of dietary guidelines.[23] The Theoretical Domains Framework can also be used to identify the most pertinent barriers to implementation. Importantly, tools have also been developed to assist researchers and practitioners using the framework to select the most appropriate strategies to address these.[21] While such frameworks have typically been used to assess factors that may impede recommended professional practice in clinical settings, their application in childcare settings is increasing.[23,24] Systematic review protocols, recently registered with PROSPERO, also suggest that an up-to-date systematic synthesis of barriers and facilitators of fruit and vegetable consumption in preschool-aged children,[25] together with factors that influence the implementation of dietary guidelines in childcare services[26] will soon be available.

In the field of implementation science, the broad application of 'hybrid' evaluation designs has been recommended to improve the measurement and reporting of implementation processes and outcomes in trials.[27,28] Hybrid evaluation designs involve the concurrent collection of intervention impact (on health behaviours) and implementation outcomes,[29] and their broad application across trials would improve the availability of implementation information. Furthermore, the Society for Implementation Research maintains a growing list of validated measures to assess implementation constructs as part of its ongoing Instrument Review Project.[30] The repository will provide a basis for the development of new tools or adaptation and re-validation of existing tools to evaluate key implementation constructs for implementation of obesity prevention initiatives in childcare services. Such work would represent an important advancement for the field.

CONCLUSION

The application of implementation science to child obesity prevention has considerable potential to ensure that the benefits of proven interventions in the childcare setting can be translated in to the real world and contribute to improvements in child health. Shifting the focus of obesity research efforts to implementation will help achieve this objective.

REFERENCES

1 World Health Organization. Report of the Commission on Ending Childhood Obesity. Geneva, Switzerland, World Health Organization, 2016.

2 McGuire S. Institute of Medicine (IOM) Early Childhood Obesity Prevention Policies. Washington DC: The National Academies Press; 2011. *Advances in Nutrition: An International Review Journal.* 2012;3(1):56-7.

3 Barnes M. Solving the problem of childhood obesity within a generation. Washington DC, White House Task Force on Childhood Obesity Report to the President, 2010.

4 Finch M, Jones J, Yoong S, Wiggers J, Wolfenden L. Effectiveness of centre-based childcare interventions in increasing child physical activity: a systematic review and meta-analysis for policymakers and practitioners. *Obesity Reviews.* 2016;17(5):412-28.

5 Bonvin A, Barral J, Kakebeeke TH, Kriemler S, Longchamp A, Schindler C, et al. Effect of a governmentally-led physical activity program on motor skills in young children attending child care centers: a cluster randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity.* 2013;10(1):1.

6 Finch M, Wolfenden L, Falkiner M, Edenden D, Pond N, Hardy L, et al. Impact of a population based intervention to increase the adoption of multiple physical activity practices in centre based childcare services: a quasi experimental,

effectiveness study. *International Journal of Behavioral Nutrition and Physical Activity.* 2012;9(1):101.

7 Jones J, Wyse R, Finch M, Yoong SL, Lecathelinais C, Wiggers J, et al. Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial. *Implementation Science.* 2015;10:147. doi: 10.1186/s13012-015-0340-z

8 Wolfenden L, Milat AJ, Lecathelinais C, Sanson-Fisher R, Carey ML, Bryant J, et al. What is generated and what is used: a description of public health research output and citation. *European Journal of Public Health.* 2016;26(3):523-5.

9 Wolfenden L, Finch M, Wyse R, Clinton-McHarg T, Yoong SL. Time to focus on implementation: the need to re-orient research on physical activity in childcare services. *Australian New Zealand Journal of Public Health.* 2016;40(3):209-10.

10 Chow AF, Humbert L. Physical activity and nutrition in early years care centres: Barriers and facilitators. *Canadian Children.* 2011;36:26-30.

11 Tucker P, van Zandvoort MM, Burke SM, Irwin JD. Physical activity at daycare: Childcare providers' perspectives for improvements. *Journal of Early Childhood Research.* 2011;9(3):207-19.

12 Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science.* 2009;4(1):1.

13 Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science.* 2012;7(1):1.

14 Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Quality and Safety in Health Care.* 2005;14(1):26-33.

15 Tremblay L, Boudreau-Larivière C, Cimon-Lambert K. Promoting physical activity in preschoolers: A review of the guidelines, barriers, and facilitators for implementation of policies and practices. *Canadian Psychology.* 2012;53(4):280.

16 Wolfenden L, Ziersch A, Robinson P, Lowe J, Wiggers J. Reducing research waste and improving research impact. *Australian New Zealand Journal of Public Health.* 2015;39(4):303-4.

17 Rabin BA, Glasgow RE, Kerner JF, Klump MP, Brownson RC. Dissemination and implementation research on community-based cancer prevention: a systematic review. *American Journal of Preventive Medicine*. 2010;38(4):443-56.

18 Wolfenden L, Jones J, Williams CM, Finch M, Wyse RJ, Kingsland M, et al. Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services. Cochrane Database of Systematic Reviews. 2016; Issue 10. doi: 10.1002/14651858.CD011779.pub2

19 Effective Practice, Orgnaisation of Care (EPOC). EPOC Taxonomy. 2015. https://epoc.cochrane.org/epoc-taxonomy

20 French SD, Green SE, O'Connor DA, et al. Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework. *Implementation Science.* 2012;7(1):1.

21 Michie S, Johnston M, Francis J, Hardeman W, Eccles M. From theory to intervention: mapping theoretically derived behavioural determinants to behaviour change techniques. *Applied Psychology.* 2008;57(4):660-80.

22 Francis JJ, O'Connor D, Curran J. Theories of behaviour change synthesised into a set of theoretical groupings: introducing a thematic series on the theoretical domains framework. *Implementation Science.* 2012;7(1):1.

23 Seward K, Wolfenden L, Finch M, Wiggers J, Wyse R, Jones J, et al. Multistrategy childcare-based intervention to improve compliance with nutrition guidelines versus usual care in long day care services: a study protocol for a randomised controlled trial. *BMJ Open.* 2016;6(6):e010786.

24 Wolfenden L, Finch M, Nathan N, Weaver N, Wiggers J, Yoong S, et al. Factors associated with early childhood education and care service implementation of healthy eating and physical activity policies and practices in Australia: a cross-sectional study. *Translational Behavioral Medicine*. 2015;5(3):327-34.

25 O'Malley CH, Heslehurst N. Exploring barriers and facilitators of fruit and/or vegetable consumption in preschool children: a meta-synthesis using the Theoretical Domains Framework. PROSPERO, 2015. http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015024627

26 Seward K, Wolfenden L, Wyse R, Finch M, Jones J. Factors that influence the implementation of dietary guidelines regarding food provision in centre based childcare services: a systematic review. PROSPERO, 2016. http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016046406

27 Wolfenden L, Williams C, Wiggers J, Nathan N, Yoong SL. Improving the translation of health promotion interventions using effectiveness-implementation hybrid designs in program evaluations. *Health Promotion Journal of Australia.* 2016;27(3):204-7.

28 Cohen AN, Hamilton AB, Ritchie M, Mittman BS, Kirchner JE, Wyatt GE, et al. Improving care quality through hybrid implementation/effectiveness studies: Best practices in design, methods, and measures. *Implementation Science.* 2015;10(1):1.

29 Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid designs: combining elements of clinical effectiveness and implementation research to enhance public health impact. *Medical Care.* 2012;50(3):217.

30 Lewis CC, Stanick CF, Martinez RG, Weiner BJ, Kim M, Barwick M, et al. The society for implementation research collaboration instrument review project: a methodology to promote rigorous evaluation. *Implementation Science.* 2015;10(1):1.

CHAPTER 7

A summary of thesis findings and implications for future policy, practice and research

CHAPTER OVERVIEW

The aims of this thesis were: to describe the dietary intake and physical activity behaviours of children attending Australian childcare services; to systematically review and synthesise current evidence for the effectiveness of strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services; to develop and evaluate the effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services; and to discuss the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting. This final chapter provides a summary of the research undertaken to address the thesis aims and the key findings of this thesis. The chapter concludes with the implications of the thesis findings for future policy, practice and research.

SUMMARY OF THESIS FINDINGS

Chapter 1: Thesis introduction

Chapter 1 provided an evidence review to describe the rationale for the research described in this thesis. Specifically, it provided evidence demonstrating the high prevalence, substantial disease burden and financial costs related to overweight and obesity. For example, internationally, more than 1.9 billion adults are currently overweight or obese, placing them at increased risk of premature mortality and of developing a range of chronic diseases and contributing to the significant financial cost associated with this condition.[1] Globally, in 2014, approximately 41 million children under the age of 5 years were overweight obese, 31 million of which were living in developing countries.[2,3] This prevalence is predicted to rise further, with 9% of all children worldwide aged between 0 and 5 years (approximately 60 million) expected to be classified as overweight or obese by the year 2020.[4]

The 2015 Global Burden of Diseases, Injuries, and Risk Factors Study reported that 3.96 million deaths were attributed to high body mass index in 2015, an increase of 19.5% from 3.31 million in 2005.[5] Further, the World Health Organization estimated that 35.8 million disability-adjusted life years (DALYs) were attributable to overweight and obesity globally[6], with evidence indicating that overweight and obesity are associated with an increased risk of cardiovascular disease and type 2 diabetes,[7,8] and some cancers including breast, colon, prostate, endometrial, kidney and pancreatic.[9] Overweight and obesity also results in a significant financial cost and economic burden

to society, with the medical cost of overweight and obesity estimated to be US$147 billion in the US in 2008, an increase of approximately $68 billion since 1998.[10]

The main modifiable causes of overweight and obesity include poor diet (such as high consumption of energy-dense nutrient-poor foods and low consumption of fruits and vegetables), low levels of physical activity and high levels of sedentary behaviours.[11,12] To reduce the risk of unhealthy weight gain, international evidence-based public health guidelines for dietary intake and physical activity have been developed for children aged 0 to 5 years. These guidelines provide key population-level recommendations in order to reduce the risk of the development of overweight and obesity.[13-20] In summary, national dietary guidelines for countries including the US, UK, Canada and Australia all provide recommendations for children that encourage the consumption of core food groups, the consumption of a variety of nutritious foods and choosing water to drink, while limiting the intake of discretionary energy-dense, nutrient-poor foods. For physical activity, guidelines from the same countries including Australia acknowledge the importance of children engaging in a range of physical activity experiences, spread throughout the day. Australian guidelines specifically recommend that toddlers and preschoolers should be physically active every day for at least 180 minutes spread throughout the day.

However, despite the considerable importance of the development of healthy nutrition and physical activity behaviours in early childhood, internationally few children aged 0 to 5 years adhere to such guidelines. Childcare services represent a

valuable setting to support obesity prevention as childcare services can implement a range of healthy eating, physical activity and obesity prevention policies and practices;[21] provide access to a large proportion of the population aged 0 to 5 years;[22] and there is evidence that childcare service policies, practices and programmes can influence child diet and physical activity behaviours and weight status.[23-28] However, despite recommendations from best practice guidelines and evidence from systematic reviews demonstrating that childcare service policies and practices can improve child diet, physical activity and weight status, the current implementation of healthy eating, physical activity and obesity prevention policies and practices by childcare services is sub-optimal.[29-33]

If the comprehensive implementation of healthy eating, physical activity and obesity prevention policies and practices in childcare services is not achieved, the potential public health benefits of intervention in this setting will not be realised. The opening thesis chapter concluded that there is a need for further research in order to facilitate the translation of obesity prevention research in this setting. Specifically, additional research is required regarding: the prevalence of dietary intake and physical activity behaviours of children attending Australian childcare services; the effectiveness of strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes within childcare services; and the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting.

Chapter 2: Dietary intake and physical activity levels of children attending Australian childcare services

Research suggests that there may be scope to improve the dietary intake and physical activity of children while attending childcare, with many children not consuming foods consistent with dietary guidelines, and not obtaining sufficient physical activity while in care.[34-39] Further, previous studies suggest that children attending services located in lower socio-economic areas may consume fewer vegetables[38] and participate in less physical activity than those in higher socio-economic areas.[34] However few studies have examined the quality of foods that children bring from home in a 'lunchbox' and few have described differences in child dietary intake or physical activity according to service characteristics. Identifying differences in the health behaviours of children according to service characteristics would assist policy makers to identify services that may be in most need of intervention support to improve child health behaviour, and to ensure that interventions in this setting do not exacerbate existing health inequities. Given the gaps in the evidence-base, a study was conducted to describe the dietary intake and physical activity levels of children while attending childcare in a sample of Australian childcare services where foods are brought from home in a lunchbox. The study also examined differences between child dietary intake and physical activity; and service characteristics including service type, size, socioeconomic area and geographical location.

Chapter 2 described a cross-sectional study, undertaken in 18 centre-based childcare services in the Hunter region of New South Wales, Australia. Service characteristics were assessed via a telephone survey with the service manager of participating services. Child dietary intake and physical activity were assessed during a one-day observation from 9am to 3pm using previously validated tools. Dietary intake was observed in three randomly selected children per service using a modified version of the Dietary Observation for Child Care protocol.[40] All physical activity occasions for all children that occurred between 9am and 3pm were also observed using a modified version of the System for Observing Play and Leisure in Youth (SOPLAY) tool and protocol.[41] The observers assessed the level of the physical activity of all children by scanning and counting the number of individual children engaged in 'sedentary', 'walking' or 'very active' physical activity every 10 minutes for the duration of each occasion. Differences between the mean number of serves of each food group, and service type, size, socioeconomic area and geographical location were tested using linear regression models within a generalised estimating equation (GEE) framework to adjust for clustering. Examination of differences between child physical activity (very active vs sedentary/walking) was conducted in the same way.

The study found that during the observation period, children consumed a mean of 0.2 serves of vegetables, 0.7 serves of fruit, 1.4 serves of grain (cereal) foods, 0.1 serves of lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans, 0.6 serves of milk, yoghurt, cheese and alternatives and 0.7 serves of discretionary foods. Children consumed, on average, 5% of the recommended daily intake of vegetables, 49% of the

recommended daily intake of fruit, 36% for grain (cereal) foods, 5% for lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans and 32% for milk yogurt, cheese and alternatives. In bivariate analyses, children attending services located in rural areas consumed significantly more serves of vegetables (0.3 serves (SD 0.7) versus 0.1 serves (SD 0.2), *p*=0.05). The study also found that 48.6% of all child physical activity counts were classified as 'sedentary', and 22.3% classified as 'very active'. Children attending larger services appeared to be more active, with the multi-variate analyses indicating services with higher child enrolments (>50 children) had a significantly greater proportion of child counts classified as 'very active' (23.6% of child counts (95% CI 1.6, 29.5) versus 14.9% of child counts (95% CI 9.1, 20.6), *p*=0.007). There were no other significant differences between child dietary intake and physical activity, and service characteristics.

This study provided much needed data regarding the dietary intake and physical activity levels of children attending Australian centre-based childcare services and is one of a small number of studies describing child dietary intake while in care from foods brought from home in a lunchbox. The study found considerable opportunity for improvement in child dietary intake and physical activity, particularly in the consumption of vegetables and meat and meat alternatives in children attending services located in urban areas. Similarly, the study found services with smaller number of child enrolments had children who were least likely to be 'very active'. The findings highlight the potential opportunities to improve child healthy eating and

physical activity behaviours by implementing evidence-based policies, practices and programmes in the childcare setting.

Chapter 3: Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services

Despite the existence of effective interventions and best-practice guideline recommendations[42-44] for childcare services to implement policies, practices or programmes to promote child healthy eating, physical activity and prevent unhealthy weight gain, many services fail to do so.[30,31,33,37] Without the adequate implementation of such policies, practices and programmes across the population of childcare services, the potential public health benefits of initiatives to improve child diet, physical activity or prevent obesity in this setting will not be fully realised. Identifying and applying effective strategies to support the implementation of healthy eating, physical activity and obesity prevention policies and practices in the childcare setting is required to maximise child health outcomes.

Chapter 3 described a systematic review conducted to examine the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes by childcare services that promote child healthy eating, physical activity and/or obesity prevention. Searches of the electronic databases: the Cochrane Central Register of Controlled trials (CENTRAL), MEDLINE, MEDLINE In Process, EMBASE, PsycINFO, ERIC,

CINAHL, SCOPUS were conducted, together with searches of electronic trial registries, two international implementation science journals, and the reference lists of included trials. Any study (randomised or non-randomised) with a parallel control group that compared any strategy to improve the implementation of healthy eating, physical activity or obesity prevention policy, practice or programme by staff of centre-based childcare services to a comparison group were included. Pairs of review authors independently screened abstracts and titles and extracted trial data and assessed risk of bias. In instances where discrepancies could not be resolved via consensus, a decision was made by a third review author.

Ten trials were identified as eligible and included in the review. The trials sought to improve the implementation of policies and practices targeting healthy eating (two trials), physical activity (two trials) or both healthy eating and physical activity (six trials). Collectively the implementation strategies tested across the 10 trials included educational materials, educational meetings, audit and feedback, opinion leaders, small incentives or grants, educational outreach visits or academic detailing. Of the 10 trials, eight examined implementation strategies versus a usual practice control and two compared alternative implementation strategies. There was considerable study heterogeneity, and for all review outcomes, the quality of the evidence was rated as very low. The review findings were narratively synthesised according to the implementation strategies employed and the outcome measures reported. The review findings indicate that it is uncertain whether the strategies tested improved the implementation of policies, practices or programmes that promote child healthy

eating, physical activity and/or obesity prevention. No intervention improved the implementation of all policies and practices targeted by the implementation strategies relative to a comparison group. Of the eight trials that compared an implementation strategy to usual practice or a no intervention control, however, seven reported improvements in the implementation of at least one of the targeted policies or practices relative to control. For these trials the effect on the primary implementation outcome was as follows: among the three trials that reported score-based measures of implementation the scores ranged from 1 to 5.1; across four trials reporting the proportion of staff or services implementing a specific policy or practice this ranged from 0% to 9.5%; and in three trials reporting the time (per day or week) staff or services spent implementing a policy or practice this ranged from 4.3 minutes to 7.7 minutes.

The findings of the review suggest that there is considerable scope to improve the evidence-base to guide future efforts to support implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes in centre-based childcare services. Further, the review highlights that little guidance is currently available for policy makers and practitioners interested in supporting the implementation of healthy eating, physical activity or obesity prevention policies, practices and programmes in childcare services. Current research provides weak and inconsistent evidence of the effectiveness of such strategies in improving the implementation of such policies and practices.

Chapters 4 and 5: A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services (study protocol); and Effectiveness of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services: a randomised controlled trial

Chapters 4 and 5 described the development and evaluation of a multi-component intervention with the aim of increasing the proportion of centre-based childcare services implementing healthy eating and physical activity policies and practices. The study also sought to determine if the intervention was effective in improving child dietary intake and increasing child physical activity levels while attending childcare and, as a potential adverse effect, if it increased the occurrence of injury among staff or children. Chapter 4 (the study protocol) reported the development and methods of the trial in detail, whereas Chapter 5 reported the trial findings.

In summary, a parallel group, randomised controlled trial was conducted in a sample of 128 childcare services in the Hunter region of New South Wales, Australia. The 12-month intervention aimed to increase childcare service implementation of seven healthy eating and physical activity policies and practices. Services allocated to the intervention group were offered eight intervention implementation strategies including: the provision of implementation support staff; securing executive support; staff training; consensus processes; academic detailing visits; tools and resources;

performance monitoring and feedback; and a communications strategy. The primary outcome of the trial was the proportion of services implementing all seven healthy eating and physical activity policies and practices targeted by the intervention. Outcome data were collected via computer assisted telephone interview (CATI) surveys with service managers and room leaders at baseline and immediately post-intervention. Secondary trial outcomes included between-group differences in the mean number of serves consumed by children for each food group within Australian guidelines (the Australian Guide to Healthy Eating) and in the proportion of children engaged in 'sedentary', 'walking' or 'very active' physical activity assessed via observation in a random subsample of 36 services at follow-up.

Analysis of all available data showed that there was no significant difference over time between groups in the proportion of services implementing all seven healthy eating and physical activity policies and practices, the primary trial outcome (p=0.44). An investigation of the individual policies and practices that were targeted indicated that, relative to the control group, a significantly larger proportion of intervention group services reported having a written nutrition and physical activity policy (p=0.05) and providing adult-guided activities to develop fundamental movement skills (p=0.01). There was a significant difference between groups in the mean number of healthy eating and physical activity policies and practices implemented over time, favouring the intervention group (p=0.05). There were no significant differences between groups at follow-up on measures of child dietary intake or physical activity. Despite the substantial increase in the number of intervention components relative to past

interventions, the duration of intervention support, and evidence of similar effect sizes for implementation interventions of similar intensities in other settings, the study findings (of no significant improvement in the proportion of services implementing all targeted policies and practices) were similar to those of the previously conducted randomised controlled trials in the childcare setting.

There are several factors that may have limited the effectiveness of the intervention on the primary trial outcome. High rates of implementation for a number of policies and practices at baseline, significant obesity prevention activity in the study region in the 12 months prior to, and during the 12-month intervention, increases in implementation in control group services, and higher than previously reported intra-class correlation of child behaviours may, in part, explain the trial findings. Overall, the study represents an important contribution to the limited literature regarding the implementation of obesity prevention interventions in the childcare setting.

Future research should consider directing implementation support at services where there may be greater scope for improvement; utilising intervention strategies that best address reported barriers to policy and practice implementation; and retaining intervention strategies that are common to the successful implementation of individual policies and practices in the current trial together with previous trials.

Chapter 6: Improving the impact of obesity prevention interventions in the childcare setting the need for a systematic application of implementation science

The implementation of obesity prevention initiatives in childcare services is necessary in order to avert future health burdens.[45,46,47] However the impact of such interventions in improving child health behaviours when delivered in the community appears to be limited. Re-orienting research priorities from efficacy studies to focus on the development of an implementation science for the childcare setting has been recommended to ensure interventions can be implemented in real world contexts with sufficient integrity to yield meaningful improvements in health.

Based on the findings of the previous chapters within this thesis, Chapter 6 discussed the need for a systematic application of implementation science to improve the impact of obesity prevention interventions in the childcare setting, including several key areas that should be the focus of future research efforts in the field. Firstly, future research should be conducted to gain a thorough understanding of the barriers childcare services and their staff experience in the implementation of obesity prevention policies, practices and programmes. While some research has described such barriers,[48,49] most studies have primarily investigated individually focussed barriers. Comprehensive theoretical implementation frameworks suggest that implementation barriers occur at multiple levels and also suggest a systematic approach to the identification of barriers and the selection of implementation strategies accordingly.[50-

[52] However, barriers appear to be rarely considered in efforts to improve programme implementation in childcare services. Future research should also look to increase the assessment and consideration of barriers in the development of programme implementation strategies.

Secondly, future research should look to improve the reporting of implementation strategies and processes in research trials. In order to maximise public health impact, policy makers and practitioners require not only effective interventions, but also a strategy that is effective in achieving intervention implementation with sufficient fidelity to achieve health improvements.[53] While there are large numbers of trials reporting the effects of interventions in the childcare setting on child diet, physical activity or adiposity, Chapter 3 identified just 10 controlled trials investigating the effects of strategies to improve intervention implementation. Furthermore, when implementation strategies are reported, descriptions are often sparse and do not utilise established taxonomies recommended to classify implementation strategies. Without adequate reporting, synthesis of studies describing implementation strategies is difficult, as are attempts by policy makers or practitioners to replicate or adopt strategies that are reportedly successful.

Thirdly, future research should involve the development of validated measures of theoretical constructs hypothesised to influence implementation. The use of comprehensive theoretical frameworks is recommended to guide the design and evaluation of strategies to improve implementation,[54] however while a number of such

theories exist,[50-52] there are few psychometrically sound instruments to measure the constructs of such theories. Measures of theoretical constructs that are hypothesised to influence implementation are critical in order to better understand implementation processes and improve the effectiveness of implementation strategies.

Applying implementation science to child obesity prevention efforts has considerable potential to ensure that the benefits of proven interventions in the childcare setting can be translated in to the real world and contribute to improvements in child health. Shifting the focus of obesity research efforts to implementation will help achieve this objective and will maximise the potential health benefits that can be gained from intervention in this setting.

IMPLICATIONS FOR FUTURE POLICY AND PRACTICE

The findings of this thesis have implications for future policy and practice with regards to the routine monitoring and evaluation of childcare service implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes.

Routine monitoring and evaluation of childcare service implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes

The systematic review described in Chapter 3 included just 10 controlled trials examining the effectiveness of strategies aimed at improving the implementation of policies, practices or programmes by childcare services that promote child healthy eating, physical activity and/or obesity prevention. There is, however, considerable activity to improve the implementation of healthy eating and physical activity initiatives in this setting being undertaken by governments, non-government organisations and individual childcare services across the globe. For example, in the state of New South Wales, Australia, the state government has invested millions of dollars since 2005 in local health services to support childcare services to implement evidence-based policies and practices to prevent obesity via programmes such as 'Munch & Move' and 'Good for Kids. Good for Life'.[55,56] Similarly, in Australian states such as Western Australia, South Australia and Victoria, the state-wide 'Start Right Eat Right' programme and award scheme received state government funding since 1999 to improve service nutrition policies and practices, together with service menus and the foods served to children while attending childcare. Considerable investments have also been made internationally, in countries such as the US, Canada and UK to improve childcare healthy eating and physical activity environments.[57,58]

Despite such activity, most efforts to implement obesity prevention initiatives in the childcare setting are not monitored nor their impacts evaluated, representing a considerable missed opportunity to advance the science of implementation in this setting.[59] Noting this point, The Institute of Medicine publication 'Evaluating Obesity Prevention Efforts: A Plan for Measuring Progress' identified the lack of ongoing monitoring of childcare service food and physical activity environments as an impediment to the advancement of implementation research.[59] Establishing routine monitoring systems may increase the evaluative capacity within the setting by providing an infrastructure to assess the impact of the innovation and activity aimed at implementing evidence-based obesity prevention programmes. This could serve multiple purposes, with such monitoring systems providing an opportunity to: i) track implementation processes; ii) evaluate implementation outcomes; iii) identify gaps and priority areas; and iv) ensure that initiatives to support the implementation of obesity prevention policies and practices are implemented in locations where they are most needed and do not further exacerbate health inequalities.

Establishing quality monitoring systems suitable to serve these purposes and further build the evidence-base, however, represents a challenge. The World Health Organization[60] and The Australian Institute for Health and Welfare[61] recommend that monitoring systems: i) use validated measures; ii) survey the population or a representative sample iii); use uniform data collection methods; iv) collect data in a timely manner to inform policy decisions; v) employ practical, efficient and acceptable data collection systems; and vi) where possible, embed such monitoring systems into

routine data collection systems. Some progress towards achieving a monitoring system with such capabilities for childcare services has been made. A number of validated surveys assessing childcare policies and practices relevant to obesity prevention have been published.[62-67] Whilst several of these rely on trained researchers employing direct observation within the setting, a number are based on self-assessment by childcare services, a method that may be more practical, timely, efficient and acceptable to implement on a population level than more intensive data collection methods such as direct observation.

The International Network for Food and Obesity/non-communicable Diseases Research, Monitoring and Action Support (INFORMAS) published proposed survey methods to monitor the nutritional quality of foods and beverages across multiple settings and jurisdictions, including childcare services.[68] The INFORMAS network has been developed to facilitate the development of monitoring systems in childcare services and to standardise methods where appropriate. While in its infancy, currently the proposed INFORMAS surveys for the childcare setting include measures for service food and nutrition environments, collected via self-completed questionnaire.[68] However, the surveys currently do not include measures of service physical activity environments. Similarly, the New South Wales Ministry of Health introduced a monitoring system known as the Population Health Intervention Management System (PHIMS) in 2014 to track the implementation of healthy eating and physical activity policies and practices in all childcare services and primary schools across the state of New South Wales.[69] The system serves to provide implementation monitoring

information at the local level for use by local health promotion practitioners working to implement policies, practices and programmes within local childcare services, and aggregate state level data for government policy monitoring purposes.[69] The data is collected via project records of health promotion practitioners, with inconsistent data collection methods employed such as a combination of direct observation, self-report or audits of service records. Further, the validity and reliability of the data is unknown.

An alternate avenue for the establishment of a routine monitoring system is by utilising the childcare regulatory bodies responsible for licensing and accreditation in the childcare setting. For example, under the Australian Education and Care Services National Law, all childcare services in Australia (including preschools and long day care services) are required to undergo an assessment and rating process in order to demonstrate how they are meeting the National Regulations and National Quality Standards.[70] Part of this process involves the development of a service quality improvement plan, a direct observation of practices across the service and the sighting of documentation, conducted by an independent authorised officer from the relevant state accreditation body.[70] Currently, throughout the assessment and rating process, only limited information is collected regarding childcare service implementation of healthy eating and physical activity policies and practices and such information is not publically available. Examples of collected data include whether the service has a written nutrition policy, the extent to which the service provides healthy foods and beverages and opportunities provided for outdoor play. Enhancing the information collected by authorised officers, and its accessibility, represents a promising means of monitoring childcare service healthy eating and physical activity policies and practices

in the setting. Advantages of this approach are that the procedures for assessment are standardised, the data is collected via direct observation (gold standard), and it leverages the existing infrastructure of an established system. As such data collection may be more acceptable and efficient and cost effective. Further, given all services across Australia undergo the assessment and rating process, this also represents a potentially sustainable monitoring system as such data could be routinely collected and collated, and used as the basis for resource allocation for the provision of implementation support within the setting.

IMPLICATIONS FOR FUTURE RESEARCH

The findings of this thesis have several implications for future research. The most substantial of these implications were discussed in Chapter 6, and relate to the need for future research to understand the barriers to the implementation of obesity prevention policies, practices and programmes and greater consideration of these in the development of programme implementation strategies; improving the reporting of implementation strategies and processes in research trials; and the development of validated measures of theoretical constructs hypothesised to influence implementation. A further two implications for future research are discussed here, specifically with regards to improving the methodological rigor of trials to improve childcare service implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes, and considerations for future

interventions to facilitate the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes in childcare services.

Improving the methodological rigor of trials to improve childcare service implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes

Valid and reliable measures of outcomes are critical elements of strong research design, particularly trials aiming to draw casual inferences. While direct observation is generally considered the 'gold standard' for assessments of policies and practices,[64] the collection of such observational data is often expensive and impractical at the population level. Given these challenges, several more pragmatic self-report tools (such as surveys, questionnaires, checklists and interviews) have been developed, including the tool used to assess the trial outcomes described in Chapters 4 and 5. A recent systematic review of healthy eating and physical activity environmental audit tools in youth care settings identified 53 individual tools, 12 of which were specific to the childcare setting.[71] Of the 12 childcare-specific tools, just four had been tested to establish their psychometric properties, with studies having established the validity of all four tools, and the reliability of three tools.[71] In terms of inter-rater reliability, percentage agreement between raters ranged from 52.6% to 100% and Kappa values ranged from 0.20 to 1.00.[63-66] For criterion validity, percentage agreement ranged from 0% to 97%, and Kappa values ranged from −0.01 to 0.79.[66,67] [63-65] Substantial variation in reliability and validity measures was reported across the four instruments tested,

and also within the individual instruments across the characteristics of the childcare environment assessed. The use of non-validated instruments to assess implementation of obesity prevention policies and practices is common. For example, in the studies included in the Chapter 3 systematic review, the validity of outcome assessments was not reported in four of the five trials utilising a self-report survey or questionnaire to assess implementation. The internal validity of findings reported in such studies, and their contribution to the field of implementation research in the setting is therefore limited.

One approach to improve the validity of pragmatic methods of assessing implementation outcomes is through the use of measurement triangulation. Triangulation is broadly defined as synthesis and integration of data from multiple sources through collection, examination, comparison and interpretation.[72] By first collecting and then comparing data from multiple sources, triangulation assists in counteracting the threats to validity from each single source.[72] Triangulation can improve confidence in whether true effects occur in circumstances where a single measure provides an imprecise estimate. Measurement triangulation has been conducted previously in a number of studies to assess strategies to improve the implementation of evidence-based practices. For example, in a randomised trial of an intervention to improve the implementation of smoking cessation guidelines in outpatients, Wolfenden and colleagues used two pragmatic assessments of receipt of smoking cessation care, the audits of medical records and patient self-reported care receipt.[73] However, to our knowledge, the application of triangulation to the

assessment of childcare service implementation of healthy eating, physical activity and obesity prevention policies and practices has not previously been conducted. Triangulation of measurement, through the collection of information on implementation from multiple sources, for example surveys of childcare service managers and staff may improve confidence in the findings of trials reporting such outcomes.

An alternate method of improving the measurement of childcare service implementation of healthy eating, physical activity and obesity prevention policies and practices is to utilise external parties to conduct direct observations. For example, a recent study by Nathan and colleagues used pre-service teachers to observe the nutrition and physical activity practices and environments of 42 primary schools located in New South Wales, Australia during their 10 week university placement.[74] The use of pre-service teachers enabled extended periods of observation to be conducted by staff largely independent of the service reducing the risk of research reactivity of services to observations conducted by research personnel.[75] Similarly, in the Australian childcare setting, as well as many other countries, students undertaking further education and vocational training in the childcare industry are required to undertake up to 240 hours of work placement in order to fulfil the requirements of the qualification. These students could similarly be utilised to conduct assessments of implementation while on placement. An additional external party that could be utilised to conduct direct observations is the childcare regulatory bodies responsible for licensing and accreditation in the childcare setting. As discussed earlier, all childcare

services in Australia are required to undergo an assessment and rating process, including a direct observation of practice across the service and the sighting of documentation, conducted by an independent authorised officer. Such a process could improve the quality of measurement of childcare service implementation efforts, as well as form the basis of a sustainable monitoring system.

Finally, utilising more rigorous survey methods in the measurement of childcare service policy and practice implementation may assist in improving the validity of data collected. Many existing surveys rely on individual recall and single items to assess the implementation of childcare service policies and practices, and self-reported measures are also subject to social desirability bias. Using alternate methods, for example asking childcare service staff to keep diaries to log activities and document implementation efforts, may provide a more accurate reflection of the extent to which services have implemented healthy eating, physical activity and obesity prevention policies and practices. Such a method would also likely be acceptable to childcare service staff, given the similarity with existing licensing and accreditation requirements which involve daily documentation of routines and activities.

Considerations for future interventions to facilitate the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes in childcare services

Childcare staff worksite wellness interventions to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes

Worksite-based wellness interventions have been shown to be an effective strategy for improving the dietary intake and physical activity behaviours of employees.[76,77] Within the childcare setting, there is some evidence to suggest that such worksite initiatives are effective at improving both childcare service staff health behaviours and the implementation of healthy eating, physical activity and obesity prevention policies and practices in childcare services. The systematic review described in Chapter 3 identified one randomised trial that was conducted with 13 US childcare services.[78] Intervention and control service staff received training and technical support regarding children's health and nutrition, and received a set of nutrition and physical activity policies to improve the healthy eating and physical activity promoting practices of services.[78] In addition, staff of intervention services received a worksite wellness programme that included wellness training with individual health assessments; monthly newsletters; a group walking programme; and staff follow-up support visits. The trial found significant differences between intervention and control services at follow-up on four of eight implementation measures, including the provision of fruits and vegetables more often in children's meals and snacks.[78] The findings are congruent with other research which

has found that those with healthier behaviours are more likely to be supportive of initiatives to change community environments to promote health, and are consistent with research in the home demonstrating improvements to the home food environment among those attempting to improve their diet. The findings suggest that that staff participation in a worksite wellness intervention that addresses their own health behaviours may be a potential precursor to organisational practice change and may facilitate the implementation of childcare service healthy eating and physical activity policies and practices. Future research should test this novel hypothesis as an opportunity to improve the health of workers and children that they care for.

Involvement of parents and carers in interventions to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes

Comprehensive theoretical implementation frameworks suggest that implementation is more likely to occur if key individuals or groups with influence within the setting are engaged throughout the change process.[50] Previous research suggests that parents and carers represent a particularly important group in which to gain support in order to achieve changes in childcare service healthy eating and physical activity policies and practices.[79] For example, Wolfenden and colleagues found that the odds of reporting full implementation of healthy eating and physical activity policies and practices were significantly higher for childcare service managers who agreed that their management committee and parents were supportive of programme implementation.[79] However, of the 10 included studies in the Chapter 3 systematic review, few incorporated strategies

to engage parents and carers in the delivery of the intervention. Similarly, the trial described in Chapters 4 and 5 also failed to include any specific parent engagement strategies. The intervention did target one parent-related practice (staff monitoring of children's lunchboxes against written nutritional guidelines and the provision of feedback to parents when non-compliant foods were packed), however the corresponding implementation strategies were directed towards staff only, and parents and carers received no support as part of the intervention. Anecdotal feedback from implementation support staff indicated that at most services which were not providing feedback to parents when non-compliant foods were packed, staff found this practice to be particularly challenging, citing concerns about adverse reactions from parents. This in part may have been due to the lack of parent engagement in the planning and implementation of the intervention.

Further, a recent systematic review of obesity prevention interventions conducted in centre-based childcare services aimed to identify promising intervention characteristics associated with successful child behavioural and anthropometric outcomes.[80] The review specifically investigated whether interventions that incorporated parent engagement strategies or components were more effective than those that did not. Intervention strength scores were calculated using a coding strategy and included considerations regarding the number of intervention strategies used, their potential impact, and the frequency and duration of their use.[80] The findings of the review indicated that correlations of intervention strength scores with child anthropometric outcomes were consistently higher when parent engagement

scores were included.[80] Future studies should consider examining the factors that may influence parents and carers in supporting the implementation of healthy eating and physical activity policies and practices in childcare services, including potential barriers, facilitators and preferences. Such information could then be used to inform communication and consensus strategies to secure the endorsement of parents and the confidence of service staff, and in doing so improve the effectiveness of future implementation efforts.

Alternate simple interventions to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices and programmes

The complexity of an intervention can be determined by a range of factors. These include but are not limited to: the number and difficulty of behaviours required by those delivering or receiving the intervention; the number of components and interaction of components; the number of individuals, groups or organisational levels targeted by the intervention; the number and variability of outcomes; and the degree of flexibility, non-standardisation or tailoring of the intervention allowed.[81] Comprehensive implementation theoretical frameworks suggest that there is an inverse association between the perception of how complex an intervention is and the effectiveness of its implementation.[50] The intervention undertaken as part of this thesis (described in Chapters 4 and 5) could be considered a complex intervention for several reasons. Firstly, it targeted multiple health behaviours (healthy eating and physical activity) and required childcare service staff to simultaneously implement multiple policies and practices. Secondly, the intervention involved the delivery of

eight strategies to support the implementation of the healthy eating and physical activity policies and practices. Thirdly, most of the eight intervention strategies required multiple intensive face-to-face contacts. Fourth, the intervention aimed to change the behaviours of multiple staff members across the childcare service, as well as across varying levels of seniority including service managers, and relied on usual childcare service staff to routinely implement the healthy eating and physical activity policies and practices. Finally, the trial included the measurement of multiple outcomes, including service level implementation outcomes together with measures of child behaviour. Such complexity may, in part, explain the limited effectiveness of the intervention in increasing the implementation of childcare service healthy eating and physical activity policies and practices.

Given the challenges associated with the complexities of the intervention described in Chapters 4 and 5, considering alternate simple interventions may represent a promising strategy to improve child dietary intake and physical activity while in care. Simplifying interventions by targeting a single health behaviour (i.e. healthy eating or physical activity), by reducing the number of practices or policies targeted for implementation, or ensuring that practices align with current processes and systems in the services assist in reducing the perceived complexities of implementation. For example, given the failure of previous efforts to improve implementation of staff led activities to improve child physical activity in childcare,[57,82] despite significant and ongoing cost and resources to assist staff to do so, an ongoing study is examining changes to the scheduling of outdoor free play opportunities in childcare services.[83]

Young children's physical activity is characterised by short, intense bouts of activity of between 3 and 15 minutes during the initial period of outdoor free play, followed by extended recovery periods of sedentary behaviour or light activity.[84-86] Therefore, changing the scheduling of outdoor free play to incorporate shorter but more frequent opportunities for outdoor play may enhance child physical activity. Furthermore, such an intervention may be perceived as far simpler to implement, as it does not require acquisition of new skills or knowledge by staff and does not compete with other learning priorities. Future efforts to improve the childcare environment may, therefore, need to ensure that consideration is given to how difficult a policy or practice is to implement, as well as the strategies that could be used to support services to do so.

CONCLUSION

Childhood overweight and obesity represents a significant public health challenge. Childcare services are a valuable setting to support obesity prevention through the implementation of evidence-based healthy eating, physical activity and obesity prevention policies, practices and programmes. This thesis provides evidence of the need to improve the dietary intake and physical activity behaviours of children during attendance at childcare, and evidence to guide future strategies to improve childcare service implementation of healthy eating, physical activity and obesity prevention policies and practices to support children to do so.

REFERENCES

1 World Health Organization. Obesity and overweight. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/mediacentre/factsheets/fs311/en/.

2 United Nations Children's Fund, World Health Organization, The World Bank. Levels and trends in child malnutrition: UNICEF-WHO-The World Bank joint child malnutrition estimates. UNICEF New York, World Health Organization Geneva, The World Bank Washington DC, 2015.

3 World Health Organization. Childhood overweight and obesity. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/dietphysicalactivity/childhood/en/

4 De Onis M, Blössner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. *The American Journal of Clinical Nutrition.* 2010;92(5):1257-64.

5 Forouzanfar MH, Afshin A, Alexander LT, Anderson HR, Bhutta ZA, Biryukov S, et al. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet.* 2016;388(10053):1659-1724.

6 World Health Organization. Global Health Observatory (GHO) data - Obesity. Geneva, Switzerland, World Health Organization, 2016. http://www.who.int/gho/ncd/risk_factors/obesity_text/en/

7 Maynard M, Gunnell D, Emmett P, Frankel S, Smith GD. Fruit, vegetables, and antioxidants in childhood and risk of adult cancer: the Boyd Orr cohort. *Journal of Epidemiology and Community Health.* 2003;57(3):218-25.

8 Kaikkonen JE, Mikkilä V, Magnussen CG, Juonala M, Viikari JS, Raitakari OT. Does childhood nutrition influence adult cardiovascular disease risk? Insights from the Young Finns Study. *Annals of Medicine.* 2013;45(2):120-8.

9 Guh DP, Zhang W, Bansback N, Amarsi Z, Birmingham CL, Anis AH. The incidence of co-morbidities related to obesity and overweight: a systematic review and meta-analysis. *BMC Public Health.* 2009;9(1):1.

10 Gray V, Holman C. Deaths and premature loss of life caused by overweight and obesity in Australia in 2011-2050: Benefits from different intervention scenarios. Report for the National Preventative Health Taskforce. Perth, Australia, University of Western Australia, 2009.

11 Ambrosini GL. Childhood dietary patterns and later obesity: a review of the evidence. *Proceedings of the Nutrition Society.* 2014;73(1):137-46.

12 World Health Organization. Global Strategy on Diet, Physical Activity and Health. Geneva, Switzerland, World Health Organization, 2004.

13 National Health and Medical Research Council. *Australian Dietary Guidelines.* Canberra, Australia, 2013. https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/n55_australian_dietary_guidelines_130530.pdf

14 United States Department of Agriculture. ChooseMyPlate.gov. Alexandria, USDA ,2011. https://www.choosemyplate.gov/MyPlate

15 Public Health England. The Eatwell Guide. England, Public Health England, 2016. http://www.nhs.uk/Livewell/Goodfood/Pages/the-eatwell-guide.aspx

16 Health Canada. Canada's Food Guide. Canada, Health Canada, 2007. http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/food-guide-aliment/print_eatwell_bienmang-eng.pdf

17 Australian Government Department of Health. Australia's physical activity and sedentary behaviour guidelines. Canberra, Australia, Australian Government Department of Health, 2009. http://www.health.gov.au/internet/main/publishing.nsf/content/health-pubhlth-strateg-phys-act-guidelines

18 SHAPE America. Active Start: A Statement of Physical Activity Guidelines for Children From Birth to Age 5. Reston, SHAPE America, 2009. http://www.shapeamerica.org/standards/guidelines/activestart.cfm

19 Canadian Society for Exercise Physiology. Canadian Physical Activity Guidelines - for the early years - 0-4 years. Canada, Canadian Society for Exercise Physiology, 2012. http://www.csep.ca/CMFiles/Guidelines/CSEP_PAGuidelines_early-years_en.pdf

20 UK Department of Health. Physical activity guidelines for early years (under 5s). UK, UK Department of Health, 2011. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213738/dh_128143.pdf

21 Institute of Medicine. Early Childhood Obesity Prevention: Policies Goals, Recommendations, and Potential Actions. Institute of Medicine, 2011. http://www.nationalacademies.org/hmd/Reports/2011/Early-Childhood-Obesity-Prevention-Policies/Recommendations.aspx

22 Organisation for Economic Co-operation and Development. Enrolment in childcare and pre-schools. France, OECD, 2014. http://www.oecd.org/els/soc/PF3_2_Enrolment_in_childcare_and_preschools.pdf

23 Zhou YE, Emerson JS, Levine RS, Kihlberg CJ, Hull PC. Childhood obesity prevention interventions in childcare settings: systematic review of randomized and nonrandomized controlled trials. *American Journal of Health Promotion.* 2014;28(4):e92-103.

24 Sisson SB, Krampe M, Anundson K, Castle S. Obesity prevention and obesogenic behavior interventions in child care: A systematic review. *Preventive Medicine.* 2016;87:57-69.

25 Ward S, Bélanger M, Donovan D, Carrier N. Systematic review of the relationship between childcare educators' practices and preschoolers' physical activity and eating behaviours. *Obesity Reviews.* 2015;16(12):1055-70.

26 Mikkelsen MV, Husby S, Skov LR, Perez-Cueto FJ. A systematic review of types of healthy eating interventions in preschools. *Nutrition Journal.* 2014;13(1):1.

27 Finch M, Jones J, Yoong S, Wiggers J, Wolfenden L. Effectiveness of centre-based childcare interventions in increasing child physical activity: a systematic

review and meta-analysis for policymakers and practitioners. *Obesity Reviews.* 2016;17(5):412-28.

28 Temple M, Robinson JC. A systematic review of interventions to promote physical activity in the preschool setting. *Journal for Specialists in Pediatric Nursing.* 2014;19(4):274-84.

29 Erinosho TO, Hales DP, McWilliams CP, Emunah J, Ward DS. Nutrition policies at child-care centers and impact on role modeling of healthy eating behaviors of caregivers. *Journal of the Academy of Nutrition and Dietetics.* 2012;112(1):119-24.

30 Kelly B, Hardy LL, Howlett S, King L, Farrell L, Hattersley L. Opening up Australian preschoolers' lunchboxes. *Australian and New Zealand Journal of Public Health.* 2010;34(3):288-92.

31 Yoong SL, Skelton E, Jones J, Wolfenden L. Do childcare services provide foods in line with the 2013 Australian Dietary guidelines? A cross-sectional study. *Australian and New Zealand Journal of Public Health.* 2014;38(6):595-6.

32 Gerritsen S, Morton S, Wall CR. Physical activity and screen use policy and practices in childcare: results from a survey of early childhood education services in New Zealand. *Australian and New Zealand Journal of Public Health.* 2016;40:319-25.

33 Wolfenden L, Neve M, Farrell L, Lecathelinais C, Bell C, Milat A, et al. Physical activity policies and practices of childcare centres in Australia. *Journal of Paediatrics and Child health.* 2011;47(3):73-76.

34 Henderson KE, Grode GM, O'Connell ML, Schwartz MB. Environmental factors associated with physical activity in childcare centers. *International Journal of Behavioural Nutrition and Physical Activity.* 2015;12(1):43.

35 Tandon PS, Saelens BE, Christakis DA. Active play opportunities at child care. *Pediatrics.* 2015;135(6):e1425-e1431.

36 Olesen LG, Kristensen PL, Korsholm L, Froberg K. Physical activity in children attending preschools. *Pediatrics.* 2013;132(5):e1310-8.

37 Ball SC, Benjamin SE, Ward DS. Dietary intakes in North Carolina child-care centers: are children meeting current recommendations? *Journal of the American Dietetic Association.* 2008;108(4):718-21.

38 Gubbels JS, Raaijmakers LG, Gerards SM, Kremers SP. Dietary intake by Dutch 1- to 3-year-old children at childcare and at home. *Nutrients.* 2014;6(1):304-18.

39 Erinosho T, Dixon LB, Young C, Brotman LM, Hayman LL. Nutrition practices and children's dietary intakes at 40 child-care centers in New York City. *Journal of the American Dietetic Association.* 2011;111(9):1391-7.

40 Ball SC, Benjamin SE, Ward DS. Development and reliability of an observation method to assess food intake of young children in child care. *Journal of the American Dietetic Association.* 2007;107(4):656-61.

41 McKenzie T. SOPLAY system for observing play and leisure activity in youth. Description and procedures manual. San Diego, California, 2006. http://activelivingresearch.org/sites/default/files/SOPLAY_Protocols.pdf

42 McWilliams C, Ball SC, Benjamin SE, Hales D, Vaughn A, Ward DS. Best-practice guidelines for physical activity at childcare. *Pediatrics*. 2009;124:1650-9.

43 Commonwealth of Australia. Get Up and Grow Healthy Eating and Physical Acitity for Early Childhood. Canberra, Australia, Commonweath of Australia, 2013. http://www.health.gov.au/internet/main/publishing.nsf/Content/phd-gug-staffcarers

44 Story M, Kaphingst K, Fench S. The role of child care settings in obesity prevention. *Future of Children.* 2006;16(1):143-68.

45 World Health Organization. Report of the Commission on Ending Childhood Obesity. Geneva, Switzerland, World Health Organization, 2016.

46 Barnes M. Solving the problem of childhood obesity within a generation. Washington DC, White House Task Force on Childhood Obesity Report to the President, 2010.

47 McGuire S. Institute of Medicine (IOM) Early Childhood Obesity Prevention Policies. Washington DC: The National Academies Press; 2011. *Advances in Nutrition: An International Review Journal.* 2012;3(1):56-7.

48 Chow AF, Humbert L. Physical activity and nutrition in early years care centres: Barriers and facilitators. *Canadian Children.* 2011;36:26-30.

49 Tucker P, van Zandvoort MM, Burke SM, Irwin JD. Physical activity at daycare: Childcare providers' perspectives for improvements. *Journal of Early Childhood Research.* 2011;9(3):207-19.

50 Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a

consolidated framework for advancing implementation science. *Implementation Science.* 2009;4(1):1.

51 Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science.* 2012;7(1):1.

52 Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Quality and Safety in Health Care.* 2005;14(1):26-33.

53 Wolfenden L, Ziersch A, Robinson P, Lowe J, Wiggers J. Reducing research waste and improving research impact. *Australian New Zealand Journal of Public Health.* 2015;39(4):303-4.

54 French SD, Green SE, O'Connor DA, et al. Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework. *Implementation Science.* 2012;7(1):1.

55 Wiggers J, Wolfenden L, Campbell E, Gillham K, Bell C, Sutherland R, et al. Good for Kids. Good for Life. 2006-2010: Evaluation Report. Sydney, Australia, NSW Ministry of Health, 2013.

56 Lockeridge A, Innes-Hughes C, O'Hara BJ, McGill B, Rissel C. Munch & Move: Evidence and Evaluation Summary. North Sydney, Australia, NSW Ministry of Health, 2015.

57 Bonvin A, Barral J, Kakebeeke TH, Kriemler S, Longchamp A, Schindler C, et al. Effect of a governmentally-led physical activity program on motor skills in

young children attending child care centers: a cluster randomized controlled trial. *International Journal of Behavioral Nutrition and Physical Activity.* 2013;10(1):1.

58 Ward DS, Benjamin SE, Ammerman AS, Ball SC, Neelon BH, Bangdiwala SI. Nutrition and physical activity in child care: results from an environmental intervention. *American journal of preventive medicine.* 2008;35(4):352-356.

59 McGuire S. Institute of Medicine. Evaluating Obesity Prevention Efforts: A Plan for Measuring Progress. Washington DC: The National Academies Press, 2013. *Advances in Nutrition: An International Review Journal.* 2014;5(2):191-2.

60 World Health Organization. Communicable disease surveillance and response systems: guide to monitoring and evaluating. Geneva, Switzerland, World Health Organization, 2006.

61 Australian Institute of Health and Welfare. Food and nutrition monitoring and surveillance. Canberra, Australia, Australian Institute of Health and Welfare, 2015.

http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=6442453715

62 Dodds P, Wyse R, Jones J, Wolfenden L, Lecathelinais C, Williams A, et al. Validity of a measure to assess healthy eating and physical activity policies and practices in Australian childcare services. *BMC Public Health.* 2014;14:572.

63 Ward D, Hales D, Haverly K, Marks J, Benjamin S, Ball S, et al. An instrument to assess the obesogenic environment of child care centers. *American Journal of Health Behavior.* 2008;32(4):380-6.

64 Bower JK, Hales DP, Tate DF, Rubin DA, Benjamin SE, Ward DS. The childcare environment and children's physical activity. *American Journal of Preventive Medicine.* 2008;34(1):23-9.

65 Benjamin SE, Neelon B, Ball SC, Bangdiwala SI, Ammerman AS, Ward DS. Reliability and validity of a nutrition and physical activity environmental self-assessment for child care. *International Journal of Behavioral Nutrition and Physical Activity.* 2007;4(1):1.

66 Falbe J, Kenney EL, Henderson KE, Schwartz MB. The Wellness Child Care Assessment Tool: a measure to assess the quality of written nutrition and physical activity policies. *Journal of the American Dietetic Association.* 2011;111(12):1852-60.

67 Henderson KE, Grode GM, Middleton AE, Kenney EL, Falbe J, Schwartz MB. Validity of a measure to assess the child-care nutrition and physical activity environment. *Journal of the American Dietetic Association.* 2011;111(9):1306-13.

68 L'abbé M, Schermel A, Minaker L, Kelly B, Lee A, Vandevijvere S, et al. Monitoring foods and beverages provided and sold in public sector settings. *Obesity Reviews.* 2013;14(S1):96-107.

69 Farrell L, Lloyd B, Matthews R, Bravo A, Wiggers J, Rissel C. Applying a performance monitoring framework to increase reach and adoption of children's healthy eating and physical activity programs. *Public Health Research and Practice.* 2014;25(1):e2511408.

70 Australian Children's Education and Care Quality Authority. Assessment and ratings process. Sydney, Australia, ACECQA, 2012. http://www.acecqa.gov.au/assessment-and-ratings-process

71 Ajja R, Beets MW, Chandler J, Kaczynski AT, Ward DS. Physical activity and healthy eating environmental audit tools in youth care settings: a systematic review. *Preventive Medicine.* 2015;77:80-98.

72 Yeasmin S, Rahman KF. Triangulation research method as the tool of social science research. *BUP journal.* 2012;1(1):154-63.

73 Wolfenden L, Wiggers J, Knight J, Campbell E, Spigelman A, Kerridge R, et al. Increasing smoking cessation care in a preoperative clinic: a randomized controlled trial. *Preventive Medicine.* 2005;41(1):284-90.

74 Nathan N, Wolfenden L, Morgan PJ, Bell AC, Barker D, Wiggers J. Validity of a self-report survey tool measuring the nutrition and physical activity environment of primary schools. *International Journal of Behavioral Nutrition and Physical Activity.* 2013;10(1):1.

75 Shadish WR, Cook TD, Campbell DT. Experimental and quasi-experimental designs for generalized causal inference. Boston, US, Houghton, Mifflin and Company, 2002.

76 Mhurchu CN, Aston LM, Jebb SA. Effects of worksite health promotion interventions on employee diets: a systematic review. *BMC Public Health.* 2010;10(1):1.

77 Conn VS, Hafdahl AR, Cooper PS, Brown LM, Lusk SL. Meta-analysis of workplace physical activity interventions. *American Journal of Preventive Medicine.* 2009;37(4):330-9.

78 Gosliner WA, James P, Yancey AK, Ritchie L, Studer N, Crawford PB. Impact of a worksite wellness program on the nutrition and physical activity environment of child care centers. *American Journal of Health Promotion.* 2010;24(3):186-9.

79 Wolfenden L, Finch M, Nathan N, Weaver N, Wiggers J, Yoong S, et al. Factors associated with early childhood education and care service implementation of healthy eating and physical activity policies and practices in Australia: a cross-sectional study. *Translational Behavioral Medicine*. 2015;5(3):327-34.

80 Ward DS, Welker E, Choate A, Henderson KE, Lott M, Tovar A, et al. Strength of obesity prevention interventions in early care and education settings: A systematic review. *Preventive Medicine.* 2016.

81 Moore GF, Audrey S, Barker M, Bond L, Bonell C, Hardeman W, et al. Process evaluation of complex interventions: Medical Research Council guidance. *British Medical Journal.* 2015;350:h1258.

82 Finch M, Wolfenden L, Morgan PJ, Freund M, Jones J, Wiggers J. A cluster randomized trial of a multi-level intervention, delivered by service staff, to increase physical activity of children attending center-based childcare. *Preventive Medicine.* 2014;58:9-16.

83 Wolfenden L, Wiggers J, Morgan P, Razak LA, Jones J, Finch M, et al. A randomised controlled trial of multiple periods of outdoor free-play to increase

moderate-to-vigorous physical activity among 3 to 6 year old children attending childcare: study protocol. *BMC Public Health.* 2016;16(1):926.

84 Pate RR, McIver K, Dowda M, Brown WH, Addy C. Directly observed physical activity levels in preschool children. *Journal of School Health.* 2008;78(8):438-44.

85 Pate RR, Dowda M, Brown WH, Mitchell J, Addy C. Physical activity in preschool children with the transition to outdoors. *Journal of Physical Activity and Health.* 2013;10(2):170-5.

86 Verbestel V, Van Cauwenberghe E, De Coen V, Maes L, De Bourdeaudhuij I, Cardon G. Within-and between-day variability of objectively measured physical activity in preschoolers. *Pediatric Exercise Science.* 2011;23(3):366.

Creating childcare environments supportive of child obesity prevention

Jannah Zoe Jones

Bachelor of Nutrition and Dietetics

Submitted for the

Degree of Doctor of Philosophy

School of Medicine and Public Health

Faculty of Health and Medicine

The University of Newcastle, Australia

December 2016

BOOK 2 – Appendices

Office of Graduate Studies
Information Sheet
Thesis by Publication

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

A thesis may be submitted in the form of a series of published papers and the additional rules specific to this style of thesis are presented below. **It is important to note that the general rules for a University of Newcastle thesis are also applicable. Please ensure you also refer to** The Rules Governing Research Higher Degrees for the full scope of applicable rules.

Rule 39.1 A thesis by publication will include:

i. a full explanatory overview that links the separate papers and places them in the context of an established body of knowledge;
ii. a literature review;
iii. if detailed data and descriptions of methods are not otherwise given within the separate papers, they must be included in the body of the thesis or as appendices to the thesis;

Rule 39.2 For a thesis by publication:

i. the separate papers provided under sub-clause 39.1(i) must be published, in press or submitted to scholarly media only, i.e. refereed publications classified by current national standards and refereed conference papers, however at least 50% of these papers must have been published. Papers published up to three years prior to enrolment may be included provided they were published in scholarly media and do not represent more than 50% of the total papers;
ii. publications submitted by the candidate for another degree may only be referred to in the thesis literature review;
iii. the number of papers submitted should demonstrate that the body of work meets the requirements of the degree as outlined in the relevant schedule;
iv. the candidate must be the lead author in at least 50% of the papers written in the time of their formal Research Higher Degree candidature. Any published paper of which the candidate is a joint author may only be included in the thesis provided the work done by the candidate is clearly identified. The candidate must include in the thesis a written statement from each co-author attesting to the candidate's contribution to a joint publication included as part of the thesis. These statements must be endorsed by the Assistant Dean (Research Training).
v. the Assistant Dean (Research Training) may seek the approval of the Dean of Graduate Studies to include a paper that is outside the scope of these rules.

Office of Graduate Studies, East Wing, The Chancellery
Telephone: (02) 4921 6537 Fax: (02) 4921 6908 Email: research@newcastle.edu.au

Considerations

- Each discipline area will have different issues to consider in the decision to submit a thesis in the form of a series of published papers.
- It is essential that you discuss your options carefully with your supervisor(s). The thesis by publication must reflect a sustained and cohesive theme, an integrated whole that sits logically in the context of the available literature. Overall the material presented for examination needs to equate to that which would otherwise be presented in the traditional thesis format.
- The review process for some journals is significant resulting in lengthy waiting periods for papers to be accepted and this can delay thesis submission/completion. Time management and selection of journals/publishers is critical. Focusing on publication rather than research may lead to candidates being tempted to publish sections of their work prematurely and missing opportunities to fully capitalize on the significance of the work.
- Consider the thesis from the examiners' view point - if the publications do not have a clear cohesion and the contribution to knowledge is not clearly demonstrated, then the thesis may attract criticism and be rejected by examiners. The content of the thesis remains a matter of professional judgment for the supervisor(s) and candidate.
- Any published paper of which the candidate is a joint author may only be included in the thesis provided the work done by the candidate is clearly identified. The candidate must include in the thesis a written statement from each co-author attesting to the candidate's contribution to a joint publication included as part of the thesis. The statement/s need to be signed by the Faculty Assistant Dean (Research Training). A sample statement is provided below.
- We strongly advise that you arrange for the signatures from co-authors to be collected as soon as the paper is prepared or submitted for publication rather than trying to collect them at the time of thesis submission.
- There is no minimum or maximum requirement on the number of papers. Of equal, or perhaps more importance than quantity, is the quality of the journals. Please refer to your school or faculty for more specific guidance on the number and length of papers that would normally be expected in your discipline.

Alternative option

As discussed above, you need to consider if your publications will form a sufficient body of cohesive work to meet the requirements of thesis by publication. You may like to consider the other option of including publications within a standard thesis format, either in the body or as an appendix as supported in the rule below.

Rule 38.5. A thesis may:

i. Include publications arising as a consequence of the research undertaken for a thesis.
When the candidate includes a co-authored published paper or co-authored scholarly work, or a substantive component of a co-authored published paper or co-authored scholarly work in the body of the thesis, the candidate must include in the thesis a written statement attesting to their contribution to the joint publication. This statement must be signed by the supervisor. A statement is not required when publications are included as an appendix to the thesis.

Components and Layout

PLEASE NOTE: the layout and ordering of the contents is flexible and should be based on the judgement and experience of candidates and supervisors as well as discipline norms. Please use your own discretion and seek expert advice. The following is a suggested layout only.

1. **Title Page**

2. **Declarations**

   Originality
   I hereby certify that to the best of my knowledge and belief this thesis is my own work and contains no material previously published or written by another person except where due references and acknowledgements are made. It contains no material which has been previously submitted by me for the award of any other degree or diploma in any university or other tertiary institution.

   Thesis by Publication
   *I hereby certify that this thesis is in the form of a series of *papers. I have included as part of the thesis a written statement from each co-author, endorsed in writing by the Faculty Assistant Dean (Research Training), attesting to my contribution to any jointly authored papers. (*Refer to clause 39.2 of the Rules Governing Research Higher Degrees for acceptable papers).*

3. **Acknowledgements**

4. **List of publications included as part of the thesis**

   4.1 List all of the included published work with the full bibliographic citations in the order they appear in the thesis.

   4.2 Provide a statement to indicate that where necessary permission regarding copyright has been obtained from copyright owners. For example, the statement may say "I warrant that I have obtained, where necessary, permission from the copyright owners to use any third party copyright material reproduced in the thesis (e.g. questionnaires, artwork, unpublished letters), or to use any of my own published work (e.g. journal articles) in which the copyright is held by another party (e.g. publisher, co-author)."

5. **Table of Contents**

6. **Abstract**

   An abstract of approximately 300 words is required to describe the content of the thesis.

7. **Overview**

   A full explanatory overview is required to link the published papers to the research thesis. This may include sections for Literature Review (if not included separately), Research Design and Review/Discussion. Not all of these sections may be necessary. **Choose the format that underpins the academic argument so that the contents of the thesis are established as a substantial and significant body of work, but without unnecessary repetition.**

8. **Literature Review**

3

9. Statement of Contribution of Others

In the thesis, at the front of each paper, include a written statement from each co-author attesting to the candidate's contribution to a joint publication included as part of the thesis. The purpose of this statement is to summarise and clearly identify the nature and extent of the intellectual input by the candidate and any co-authors.

9.1 Sample co-author statement

By signing below I confirm that [Candidate Name] contributed [insert outline of contribution]) to the paper/publication entitled [insert reference details].

List:
Full Name of Co-Author/s, Date, Signature of Co-Authors

Full Name of Faculty Assistant Dean Research Training, Date, Signature

10. Papers/Chapters

Each paper/chapter should have an introduction to explain how it contributes to the overall body of knowledge. It is not necessary to reformat published papers in the thesis. Where appropriate publications can be included in full or in parts thereof.

11. Appendices

12. Bibliography

4

NSW GOVERNMENT Health
Hunter New England
Local Health District

9 August 2012

Dr Luke Wolfenden
Manager – Health Children's Initiative
Population Health
Wallsend Campus

Dear Dr Wolfenden

Re: Creating childcare environments supportive of child obesity prevention: The effectiveness of an intensive population based dissemination intervention – A dissemination intervention to prevent obesity in childcare (12/08/15/5.01)

HNEHREC Reference No: 12/08/15/5.01
NSW HREC Reference No: LNR/12/HNE/244
NSW SSA Reference No: LNRSSA/12/HNE/245

Thank you for submitting the above protocol for single ethical review. This project was considered to be eligible to be reviewed as Low and Negligible risk research and so was reviewed under the by the Hunter New England Human Research Ethics Committee expedited process at an executive meeting held on **7 August 2012.** This Human Research Ethics Committee is constituted and operates in accordance with the National Health and Medical Research Council's *National Statement on Ethical Conduct in Human Research (2007)* (National Statement) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*. Further, this Committee has been accredited by the NSW Department of Health as a lead HREC under the model for single ethical and scientific review. The Committee's Terms of Reference are available from the Hunter New England Local Health District website: http://www.hnehealth.nsw.gov.au/Human_Research_Ethics.

I am pleased to advise that following acceptance under delegated authority of the requested clarifications and revised Information Statement by Dr Nicole Gerrand Manager, Research Ethics & Governance, the Hunter New England Human Research Ethics Committee has granted ethical approval of the above project.

The following documentation has been reviewed and approved by the Hunter New England Human Research Ethics Committee:

- Childcare Health Survey – Information for Nominated Supervisors (Version 2 dated 8 August 2012);
- Childcare Health Survey – Site Visit Consent Form (Version 1 dated 20 June 2012);
- Parents & Carers Information Letter (Version 1 dated 8 August 2012);

Hunter New England Research Ethics & Governance Unit
(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/research_ethics_and_governance_unit

- Training & Procedures Manual (Version dated July 2012); and
- Site Data Forms

For the protocol: **Creating childcare environments supportive of child obesity prevention: The effectiveness of an intensive population based dissemination intervention – A dissemination intervention to prevent obesity in childcare**

Approval has been granted for this study to take place at the following site:

- **Hunter New England Population Health**

Approval from the Hunter New England Human Research Ethics Committee for the above protocol is given for a maximum of **3** years from the date of this letter, after which a renewal application will be required if the protocol has not been completed.

The *National Statement on Ethical Conduct in Human Research (2007),* which the Committee is obliged to adhere to, include the requirement that the committee monitors the research protocols it has approved. In order for the Committee to fulfil this function, it requires:

- A report of the progress of the above protocol be submitted at 12 monthly intervals. Your review date is **August 2013** in accordance with anticipated completion date. A proforma for the annual report will be sent two weeks prior to the due date.
- A final report must be submitted at the completion of the above protocol, that is, after data analysis has been completed and a final report compiled. A proforma for the final report will be sent two weeks prior to the due date.
- All variations or amendments to this protocol, including amendments to the Information Sheet and Consent Form, must be forwarded to and approved by the Hunter New England Human Research Ethics Committee prior to their implementation.
- The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:
  - any serious or unexpected adverse events
    - Adverse events, however minor, must be recorded as observed by the Investigator or as volunteered by a participant in this protocol. Full details will be documented, whether or not the Investigator or his deputies considers the event to be related to the trial substance or procedure. These do not need to be reported to the Hunter New England Human Research Ethics Committee
    - Serious adverse events that occur during the study or within six months of completion of the trial at your site should be reported to the Manager, Research Ethics & Governance, of the Hunter New England Human Research Ethics Committee as soon as possible and at the latest within 72 hours.
    - All other safety reporting should be in accordance with the NHMRC's Safety Monitoring Position Statement – May 2009 available at http://www.nhmrc.gov.au/health_ethics/hrecs/reference/_files/090609_nhmrc_position_statement.pdf

Hunter New England Research Ethics & Governance Unit
(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/research_ethics_and_governance_unit

- Serious adverse events are defined as:
  - Causing death, life threatening or serious disability.
  - Cause or prolong hospitalisation.
  - Overdoses, cancers, congenital abnormalities whether judged to be caused by the investigational agent or new procedure or not.
- Unforeseen events that might affect continued ethical acceptability of the project.

- If for some reason the above protocol does not commence (for example it does not receive funding); is suspended or discontinued, please inform Dr Nicole Gerrand, as soon as possible.

You are reminded that this letter constitutes ethical approval only. You must not commence this research project at a site until separate authorisation from the Chief Executive or delegate of that site has been obtained.

A copy of this letter must be forwarded to all site investigators for submission to the relevant Research Governance Officer.

Should you have any concerns or questions about your research, please contact Dr Gerrand as per the details at the bottom of the page. The Hunter New England Human Research Ethics Committee wishes you every success in your research.

Please quote **12/08/15/5.01** in all correspondence.

The Hunter New England Human Research Ethics Committee wishes you every success in your research.

Yours faithfully

For: Associate Professor M Parsons
Chair
Hunter New England Human Research Ethics Committee

Hunter New England Research Ethics & Governance Unit
(Locked Bag No 1)
(New Lambton NSW 2305)
Telephone (02) 49214 950 Facsimile (02) 49214 818
Email: hnehrec@hnehealth.nsw.gov.au
http://www.hnehealth.nsw.gov.au/research_ethics_and_governance_unit

HUMAN RESEARCH ETHICS COMMITTEE

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Notification of Expedited Approval

To Chief Investigator or Project Supervisor:	**Dr Luke Wolfenden**
Cc Co-investigators / Research Students:	**Ms Karen Gillham** **Ms Megan Freund** **Ms Meghan Finch** **Ms Rebecca Wyse** **Professor John Wiggers** **Doctor Libby Campbell**
Re Protocol:	**Creating childcare environments supportive of child obesity prevention: The effectiveness of an intensive population based dissemination intervention - A dissemination intervention to prevent obesity in childcare**
Date:	**12-Sep-2012**
HREC Reference No:	**H-2012-0321**
External HREC Reference No:	**12/08/15/5.01**
Date of Initial Approval:	**10-Sep-2012**

Thank you for your **Initial Application** submission to the Human Research Ethics Committee (HREC) seeking approval in relation to the above protocol.

Your submission was considered under **Expedited Review of External Approval** review by the Chair/Deputy Chair.

I am pleased to advise that the decision on your submission is **External HREC Approval Noted** effective **10-Sep-2012**.

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the *National Statement on Ethical Conduct in Human Research, 2007*, and the requirements within this University relating to human research.

As the approval of an External HREC has been "noted" the approval period is as determined by that HREC.

The full Committee will be asked to note this decision at its next scheduled meeting. A formal *Certificate of Approval* will be available upon request. Your approval number is **H-2012-0321**.

PLEASE NOTE:
As the HREC has "noted" the approval of an External HREC, progress reports and reports of adverse events are to be submitted to the External HREC only. In the case of Variations to the approved protocol, or a Renewal of approval, you will apply to the External HREC for approval in the first instance and then Register that approval with the University's HREC.

Linkage of ethics approval to a new Grant

HREC approvals cannot be assigned to a new grant or award (ie those that were not identified on the application for ethics approval) without confirmation of the approval from the Human Research Ethics Officer on behalf of the HREC.

Best wishes for a successful project.

Professor Allyson Holbrook
Chair, Human Research Ethics Committee

For communications and enquiries:
Human Research Ethics Administration

Research Services
Research Integrity Unit
HA148, Hunter Building
The University of Newcastle
Callaghan NSW 2308
T +61 2 492 18999
F +61 2 492 17164
Human-Ethics@newcastle.edu.au

Linked University of Newcastle administered funding:

Funding body	Funding project title	First named investigator	Grant Ref
Australian National Preventive Health Agency/Preventive Health Research Grant(**)	Creating childcare environments supportive of child obesity prevention: The effectiveness of an intensive population based dissemination intervention	Wolfenden Luke.	G1101031

Hunter New England Population Health

Direct Contact Details
Phone: (02) 4924 6477 Fax: (02) 4924 6490
Locked Bag 10, Wallsend NSW 2287
Email: PHEnquiries@hnehealth.nsw.gov.au
www.hnehealth.nsw.gov.au

NSW GOVERNMENT Health
Hunter New England
Local Health District

«Service» <DATE>
«Address1»
«Suburb» «State» «Postcode»

Dear Nominated Supervisor

CHILDCARE HEALTH SURVEY AND SITE VISIT
INFORMATION FOR NOMINATED SUPERVISORS
Version 5, dated 7/04/2014

Over the past few years, your service has participated in the *Good for Kids. Good for Life* program and evaluation conducted by Dr Luke Wolfenden from Hunter New England Population Health. The purpose of the project is to identify opportunities for Early Childhood Education and Care services to promote physical activity and healthy eating in children. The purpose of this correspondence is to thank you for participating in the program and evaluation to date, and to invite you to participate in a survey and site visit to evaluate the ongoing effectiveness of the healthy eating and physical activity programs being implemented over the next three years. While all childcare services will receive healthy eating and physical activity support over this period, the type of support and the order in which it is offered to services will be randomly determined.

Why is the research being done?
We understand that Early Childhood Education and Care services already have a number of systems and practices in place that are conducive to children developing healthy lifestyles. However, we would like to identify if there are additional ways to support childcare services to encourage children to consume healthy foods and drinks and participate in physical activity.

Who can participate?
Nominated Supervisors of Early Childhood Education and Care services within the Hunter New England region that participated in the Childcare Health Survey in 2012 and site visits in 2013 will be invited to participate.

What will you be asked to do?
We will be contacting you via telephone in approximately one to two weeks to invite you to participate in a survey, which can be conducted at a time convenient to you. The purpose of this survey is to ask you about the current policies and practices relating to healthy eating and physical activity in your service, and to update our records with any new service contact details. If you provide meals and snacks to children you will be also asked about your menu, so it would be helpful if you could have a copy of your menu from last week to refer to during the call. A copy of all the questions we will ask is included with this letter. It would be helpful if you could read through the items within the next two weeks, and if needed, talk to educators or parents, or review any service policies or guidelines to help you respond to the survey questions. This should also reduce the time of the telephone survey, which should take approximately 20-25 minutes to complete.
When we call, we will also ask your permission to conduct a telephone survey with the Preschool Room Leader from your service. The questions for the Room Leader relate specifically to the day-to-day healthy eating and physical activity practices for children aged 3 to 5 years. The telephone survey

with Room Leaders will take approximately 10-15 minutes to answer and can be completed at a time convenient to the Room Leader and service. If possible, we would like to speak to the same Preschool Room Leader we spoke to in the 2012 telephone interview. If this is not practical (for example, the Room Leader is no longer with the service or is no longer in the Preschool room) or if you have more than one Preschool Room Leader, we will ask you to select the leader with the most recent birthday, and we will invite them to participate. Please discuss this with the appropriate Preschool Room Leader and pass on the enclosed Room Leader information statement if you are happy for us to approach them to participate in a telephone survey.

The second part of the research involves a site visit. Your service has been invited to participate in a site visit following on from your participation in the site visit that we conducted in 2013. If you consent, up to two members of the research team will attend your service for a full day of operation. They will observe and record the daily routines and practices in relation to healthy eating and physical activity. This will include noting the foods and drinks that are available to children, opportunities for children to be physically active and the activity levels of children and staff members at various times of the day. If available, we will also ask to look at your weekly program and any policies relating to healthy eating or physical activity. You will not be required to prepare anything or do anything differently on this day, and we anticipate that there will be minimal disruption to you and your staff during this time. If you consent, we will contact you to arrange a convenient date within the period from May 2014 to August 2014.

What are the risks and benefits of participating?
Participation in the telephone survey will allow the research team to tailor the support we can offer your service regarding healthy eating and physical activity policies and practices. We hope that conducting these site visits will allow us to improve the subsequent support that we are able to offer individual services and to improve the evaluation of the *Good for Kids* program. We don't anticipate there will be any risk to you or your service from participation in the telephone surveys or the site visit.

How will your privacy be protected?
Any information provided during the telephone surveys and the site visit will be stored electronically in a secure facility. All information transferred electronically will be done in a file which is password protected. It will not be possible to identify individuals or services from any publication or presentation arising from the research.

What choice you do have?
Participation in this research is voluntary. Whether or not your service decides to participate in the telephone survey, or participate in a site visit, the decision will not disadvantage you or your service in any way. If you do participate, you may withdraw from the research at any time without giving a reason, and you will have the option of withdrawing any information you have provided.

How will the information collected be used?
Information provided during the Nominated Supervisors telephone survey and the Preschool Room Leaders survey will be fed back to your service. A report summarising the results of the Childcare Health Survey across the region will be made available to your service following program completion. The summary report will not identify any individuals or children's services. Information provided during the site visit will be used in the development and evaluation of support strategies to help childcare services implement healthy eating and physical activity policies and practices. Data from the telephone surveys or the site visits may also be presented at scientific conferences, be published within scientific journals or form part of student theses, or provided to the NSW Ministry of Health. No other childcare service or organisation will be able to find out the results of your service and no

individuals or children's services will be able to be identified in any report or publication by the program.

What do you need to do to participate?
If you would like your service to participate in the telephone surveys, please indicate this when our trained interviewer calls. Regarding participation in the site visit, please indicate during the telephone interview whether you do or do not consent to participate, and we will arrange to send/email you a written consent form to return via fax or a replied paid envelope. If there is anything that you do not understand, or you would like more information, please contact Alison Fielding on (02) 4924 6437.

Thank you for considering this invitation

Yours sincerely

Dr Luke Wolfenden
Manager – Healthy Children's Initiative
Hunter New England
Population Health

This project has been approved by the Hunter New England Human Research Ethics Committee of Hunter New England Health, Reference: 12/08/15/5.01. Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, manager, Research Ethics and Governance, Hunter New England Human Research Ethics Committee, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305, telephone (02) 49214950, email Nicole.Gerrand@hnehealth.nsw.gov.au

```
TITL  0         supervis1       CATI                  7     NAME
NOLAB
MODULE  SUBMODUL
Nominated Supervisors
************************ TITLE ITEM
************************************
TIME  0         t_start 1
LABEL
MODULE  SUBMODUL
This records Duration to Current point
Starting Time
****************** GET DURATION ITEM
************************************
LINK  1         CENTRENM1       QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL        6
T_start ne .
Items in external dataset
DATACATI.CENTRENM            CENTRENM            D
DATACATI.CENTRENM            SupName             D
DATACATI.CONFID              RmLdName
DATACATI.CONFID              RmName12
DATACATI.CONFID              TimeGp
DATACATI.CONFID              Valstudy
Links to external database
***************** LINK TO EXTERNAL DATASET ITEM
***************************
CHCE  1 2       service 4                     _MAKE_
LABEL
MODULE  SUBMODUL
CENTRENM gt ''
Hello, my name is ^_INTVR_^ and I'm from Hunter New England Local
Health District.

Is that ^CENTRENM^?
1       Yes
2       No
AS available
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 3       service22                     _MAKE_
LABEL
MODULE  SUBMODUL
service=2
I'm sorry, I have this number as ^CENTRENM^?
Has your childcare centre ever been known by that name?
1       Yes
2       No
3       Not a childcare centre
AS available
***************** SINGLE CHOICE - CATI VERSION
***************************
INFO  1         service64
NOLAB
MODULE  SUBMODUL
service2=3
I'm sorry to trouble you, I must have the wrong number
```

```
Thanks for your time.
                    *** Record on log sheet as WN ***
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service35
LABEL
MODULE  SUBMODUL
service2=2
What's the name of your childcare centre?

And what suburb are you in?

[INTERVIEWER NOTE: Record centre name and suburb]
Name and suburb
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         service47
NOLAB
MODULE  SUBMODUL
service3 ne ''
I was just ringing to speak to your Nominated Supervisor about a child
health survey, but I'll just check these details against our list of
services to call and ring you back if you're one of the service we
need
to speak with.

Thanks for your time.
                    *** Record on log sheet as OP ***
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200   U service55
LABEL
MODULE  SUBMODUL
service2=1
Ok, What is the NEW name of your centre?

I'll just update our records with that information.

[INTERVIEWER NOTE: Record centre name]
DATACATI.CENTRENM            CENTRENM            S
NEW Name
****************** OPEN ENDED ENTRY ITEM
*********************************
CALC  1 C     U CentreNF0
NOLAB
MODULE  SUBMOD  3               1
Service = 1 or service5 ne ''
length CentreNF $50.;
if service5='' then CentreNF =strip(CentreNM);
else CentreNF=strip(service5);
CentreNF                        C
DATACATI.CENTRENM            CentreNM            S
********************** CALCULATION ITEM
*********************************
CHCE  1 3       Intro1  7                      _MAKE_
LABEL
MODULE  SUBMODUL
CentreNF gt ''
```

```
We recently sent the Nominated Supervisor a letter about a follow up
health survey we're conducting in children's services.
Today, I'm just following up on the letter and was hoping to
speak to ^SupName^.

Is ^SupName^ still the nominated supervisor for
^CENTRENF^?
1       Yes
2       No
.R      Refused
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200   U NewNS   3
LABEL
MODULE  SUBMODUL
Intro1 in (2,.R)
Who is the new nominated supervisor?

*** Please record on logsheet ***
DATACATI.CENTRENM            SUPNAME             S
New nominated supervisor name
****************** OPEN ENDED ENTRY ITEM
*********************************
CALC  1 C     U SupNameF0
NOLAB
MODULE  SUBMOD  3               1
Intro1 = 1 or NewNS ne ''
length SupNameF $50.;
if NewNS='' then SupNameF=strip(SupName);
else SupNameF=strip(NewNS);
SupNameF                        C
DATACATI.CENTRENM            SupName             S
********************** CALCULATION ITEM
*********************************
CHCE  1 7       NSavail 1                     _MAKE_
LABEL
MODULE  SUBMODUL
SupNameF gt ''
Could I please speak to ^SupNameF^?
1       Speaking to that person
2       Person called to phone
3       Person not available (record on log sheet)
4       Time not suitable (record on log sheet)
5       Other (record on log sheet)
6       Requests letter before continuing
.R      Refused
Could I please speak to the NS?
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Intro2a 2
NOLAB
MODULE  SUBMODUL
NSavail = 2
Hello, my name is ^_INTVR_^ and I'm from Hunter New England
Local Health District.
****************** INFORMATION SCREEN ITEM
******************************
```

```
INFO  1         Intro2b 6
NOLAB
MODULE  SUBMODUL
NSavail = 1 or Intro2a = 1
We recently sent you a letter advising you that we would be contacting
you soon regarding a follow up health survey in children's services.

The letter advised that the survey was about opportunities for
children's services to promote physical activity and healthy eating
to children.
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 5       Intro3  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Intro2b = 1
The survey should take about 20 minutes.

Is now a good time for you or would you like me to call back later?
1       Yes/Appropriate
2       No/Call back later
3       Requests copy of letter before continuing
4       No/Declined survey
.R      Refused
Appropriate time
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     refused 6
LABEL
MODULE  SUBMODUL
nsavail=.R or Intro3=.R
OK, thank you for your time.

[Do not ask, but record reason if given,
                     if no reason given - record 'nil']

                   *** Record on log sheet as DR ***
Refused Reason
****************** OPEN ENDED ENTRY ITEM
********************************
OPEN  1 200     res_oth 6
LABEL
MODULE  SUBMODUL
nsavail = 5
OK, thank you for your time.

[Do not ask, but record reason if given,
                     if no reason given - record 'nil']

                   *** Record on log sheet as OT ***
Other Reason
****************** OPEN ENDED ENTRY ITEM
********************************
OPEN  1 200     decline 5
LABEL
MODULE  SUBMODUL
INTRO3=4
OK, thank you for your time
```

```
[If provide reason - record, if no reason provided - record 'nil']]

                    *** Record on log sheet as DR ***
Decline to participate
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 3       Letter  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Intro3=3 or nsavail=6
Sure, I can send you another copy.

Would you prefer email, mail or fax?
1       Email
2       Mail
3       Fax
Letter
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      let1    3
LABEL
MODULE  SUBMODUL2
Letter=1
Can I have your email address?

[INTERVIEWER NOTE: - Record Email and First name
NUMC                    2
Email                                       C
Name                                        C
EMAIL
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 10      let2    4
LABEL
MODULE  SUBMOD  3
Letter=2
Can I have your postal address?

[INTERVIEWER NOTE: - Check against address printed on the logsheet
 Record new address - check spelling.]
numc                    3
Street                                      C
Suburb                                      C
Postcode                                    C
Current address
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      let3    3
LABEL
MODULE  SUBMODUL2
Letter=3
Can I have your fax number?

[INTERVIEWER NOTE: - Record fax & First name - double check number]
NUMC                    2
Fax number                                  C
Name                                        C
```

```
FAX NUMBER
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       continue4                       _MAKE_
LABEL
MODULE  SUBMODUL
Let1 ne . or Let2 ne . or Let3 ne .
I'll send that off as soon as possible.

Would you be willing to continue the survey today, or would you prefer
us to call you back once you've had a chance to read the letter?
1       Yes - continue survey
2       No - arrange callback
Continue survey
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         callback8
NOLAB
MODULE  SUBMODUL
Intro3 = 2 or nsavail in (3,4) or continue=2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet
If faxing/emailing - can arrange callback in minimum of 2 days time
If mailing letter - can arrange callback in minimum of 5 days time]

Thank you very much for your time. Goodbye.
                  *** Record on log sheet as CB ***
****************** INFORMATION SCREEN ITEM
******************************
TABL  1 20      Name    6
NOLAB
MODULE  SUBMODUL2
Intro3= 1 or continue=1
Great, thanks for agreeing to participate.
Before we begin, can I ask your name?

[INTERVIEWER NOTE: - Record first and last name of Nominated
Supervisor
or equivalent. Check spelling. If they comment that they've already
provided their name, say that we are just confirming everyone's
details]
NUMC                    2
First Name                                  C
Last Name                                   C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 3       roomcall9                       _MAKE_
LABEL
MODULE  SUBMODUL
Name gt .
Similar to the surveys we conducted last year with your service,
within the coming months we were also hoping to talk to a room leader
or educator in your preschool room. We have some different questions
for
them focused on the day-to-day practices for 3 to 5 year olds.

The room leader's survey takes about 15 minutes and can be
```

```
scheduled for the most convenient time for them. Do I have your
permission to contact an appropriate Educator from your service?
They are free to say no when we contact them.
1       Yes - consent to contact
2       No - do not consent contact
3       N/A - do not have 3 - 5 year olds
OK to contact
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Roomcal24                       _MAKE_
LABEL
MODULE  SUBMODUL
Roomcall = 1 and Rmname12 gt ''
Previously we have spoken with ^RmLdName^ at your service, about
the ^Rmname12^ room.

Do you still have the ^Rmname12^ room at your service?
1       Yes
2       No, room NAME has changed (but functionally still same room)
3       No, room no longer exists (functionally NOT same room)
Do you still have ^Rmname12^
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Noroom  4                       _MAKE_
LABEL
MODULE  SUBMODUL
Roomcall = 1 and Rmname12 = ''
Previously we have spoken with ^RmLdName^ at your service, about
a room for 3-5 year olds.

Does ^RmLdname^ still work in the same room for 3-5 year olds?
1       Yes
2       No, room NAME has changed (but functionally still same room)
3       No, they don't
Does rm leader still work in same room?
 ***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     NewRmNme1
LABEL
MODULE  SUBMODUL
Roomcal2= 2
What is the new name of the 3-5 room?
New name of 3-5 room
******************* OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 2       Stilrmld1                       _MAKE_
LABEL
MODULE  SUBMODUL
Noroom in (1,2)
Is ^RmLdname^ still the room leader for this 3-5 room?
1       Yes
2       No
Is previous rm leadr still 3-5 rm ldr?
 ***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       Roomldr 1                       _MAKE_
LABEL
MODULE  SUBMODUL
```

```
Roomcal2 = 1 or NewRmNme ne ''
Is the room leader still ^RmLdname^?
1       Yes
2       No
Is room leader still ^RmLdname^?
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     Roomld  1
LABEL
MODULE  SUBMODUL
Roomldr = 2
Who is the current room leader for this room?
Current room leader for specified room
******************* OPEN ENDED ENTRY ITEM
*********************************
NUM   1         Rooms   12   MM
LABEL
MODULE  SUBMODUL
Roomcal2 = 3 or Noroom=3 or Stilrmld=2
If possible, we'd like to select a Room Leader or Educator for a 3-5
room
at random. In order to do that, could you please tell me how many
rooms
there are at your service for 3 - 5 year-olds?

[INTERVIEWER NOTE: ie. Number of rooms containing ONLY children aged
3-5yrs. If the room contains any children aged 0,1, or 2, it should
not
be included.(Only rooms containing 3,4 and/or 5yr olds,
so this would NOT include 0-2s, 2-4s, 2-3s, etc.)]

[INTERVIEWER NOTE: If there is only one room with 3-5yr old children,
enter "1" & USE THIS ROOM. If there is more than one room for 3-5yr
olds,
enter the number of eligible rooms.]
0                       10
0                       100
Number of Rooms
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Random1 6                       _MAKE_
LABEL
MODULE  SUBMODUL
Rooms ge 2
Can you think of the room leaders of those ^Rooms^ rooms, and tell me
the name of the room leader who had the last birthday?

[INTERVIEWER NOTE: Help out if possible. The Nominated Supervisor CAN
pick
someone else if the person picked during randomisation is not suitable
-
but it's preferable to have randomised selection]
1       they CAN name the person with the last birthday
2       they CANNOT name the person with the last birthday
3       they WILL NOT name person with last b'day (choose)
Remembers last birthday
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
CHCE  1 2       Random2 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Random1 in (2,3)
Can you think of a Room Leader or Educator at your service who works
with 3 to 5 year olds and would be able to provide information about
their day-to-day routines?
1       Yes
2       No
Recommends RL/Educator
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      Ran3    4
NOLAB
MODULE  SUBMODUL2
Rooms=1 or Random2=1 or Random1=1
What is the name of the Room Leader (or Educator)?

[INTERVIEWER NOTE: - Record first and last name of Room Leader
or equivalent. Check spelling.]
NUMC                    2
First Name                                      C
Last Name                                       C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         Random5a10
NOLAB
MODULE  SUBMODUL
Ran3 ne . or Roomld ne ''
Thanks very much. Along with your letter, we also included a letter
for
the Room Leader. Could you please pass this letter on and we'll phone
them in the next few months to arrange a time to do the survey.

The survey should take about 15 minutes to complete and can be
scheduled at the most convenient time for them.

[INTERVIEWER NOTE: If they want another copy of the letter resent
to the Room Leader, record the details on the logsheet in the
"Room Leader" column.]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         Random5b10
NOLAB
MODULE  SUBMODUL
Roomldr=1 or Stilrmld=1
Thanks very much. Along with your letter, we also included a letter
for
the Room Leader. Could you please pass this letter on and we'll phone
^RmLdname^ in the next few months to arrange a time to do the survey.

The survey should take about 15 minutes to complete and can be
scheduled at the most convenient time for them.

[INTERVIEWER NOTE: If they want another copy of the letter resent
to the Room Leader, record the details on the logsheet in the
"Room Leader" column.]
```

```
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Random6 1
NOLAB
MODULE  SUBMODUL
Random2=2 or roomcall=2
Ok, that's fine. We appreciate your time and assistance today.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Random7 1
NOLAB
MODULE  SUBMODUL
roomcall=3
Ok, that's fine.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Begin   1
NOLAB
MODULE  SUBMODUL
random5a=1 or random5b=1 or random6=1 or random7=1
If it's OK with you, we'll begin the survey.
****************** INFORMATION SCREEN ITEM
*******************************
MULT  1 10      Q1      4                                       8
MLTLB
MODULE  SUBMODUL
Begin = 1
Firstly, could you please confirm your position?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Director
2       Nominated / Authorised Supervisor
3       Room Leader (Preschool room)
4       Room Leader (Toddlers room)
5       Room Leader (Infants room)
6       Committee Member
7       Service owner
8       Other (Please Specify)
-9      Don't Know [DO NOT READ OUT]
-10     Prefer not to say [DO NOT READ OUT]
Position
Director
Nominated Supervisor
Room Leader (Preschool room)
Room Leader (Toddlers room)
Room Leader (Infants room)
Committee Member
Service owner
Other (Please Specify)
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q1_open 1
LABEL
MODULE  SUBMODUL
Substr(Q1,8,1) gt '0'
```

```
Please Specify Other
Refused Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
NUM   1         Yrswork 5    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q1 gt '0000000000' and Substr(Q1,8,1)='0' or Q1_open ne ' '
Could you please let me know how long have you been working
in this position with this service?

[INTERVIEWER NOTE: Record time IN YEARS
do not read out: 'Don't know'=999, 'Prefer not to say'=888,
'Refused'=777]
0                       50
0                       1000
Years in that position at service
******************* NUMERIC OR DATE ENTRY - CATI VERSION
******************
MULT  1 6       Q2      4                                          4
MLTLB
MODULE  SUBMODUL
Yrswork gt .
Which of the following age groups does your service care for?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Children under 1 year
2       1 year olds
3       2 year olds
4       3 to 5 year olds
-5      Don't Know [DO NOT READ OUT]
-6      Prefer not to say [DO NOT READ OUT]
Care for age groups
Under 1 year olds
1 year olds
2 year olds
3 to 5 year olds
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 5       Q5      3                                          3
MLTLB
MODULE  SUBMODUL
Substr(Q2,1,6) gt '000000'
Which of the following best describes your service?

[INTERVIEWER NOTE: Read out all response options]
1       Preschool
2       Long day care centre
3       Occasional Care
-4      Don't Know [DO NOT READ OUT]
-5      Prefer not to say [DO NOT READ OUT]
Type of Service
Preschool
Long day care centre
Occasional Care
```

```
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NUM   1         Q3      6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Substr(Q5,1,5) gt '00000'
Overall, how many allocated places for children do you have at your
service?

[INTERVIEWER NOTE:
- record NUMBER OF PLACES PER DAY
- do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Allocated Places
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q3a     4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q3 ne .
Overall, how many children are enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Number enrolled
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 4       ATSI    4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q3a ne .
Are you aware of any children of Aboriginal or Torres Strait Islander
origin enrolled at your service?

[INTERVIEWER NOTE: Do not read out response options]
1       Yes
2       No
3       Don’t Know
.R      Refused
Any Aboriginal or Torres Strait children
***************** SINGLE CHOICE - CATI VERSION
**************************
NUM   1         atsinum 5    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSI = 1
How many children of Aboriginal or Torres Strait Islander origin are
enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
```

```
0                       1000
Number Aboriginal or Torres Strait children
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q4open  3    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSInum ne . or ATSI in (2,3,.R)
How many days a week are you open?

[INTERVIEWER NOTE: If varies from week to week, enter average days/wk]
0                       7
0                       1000
Number of days open
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      Q4      8    MM
NOLAB
MODULE  SUBMODUL2
Q4open ne .
What are your service hours of operation?

[INTERVIEWER NOTE: Use 24 hour time
0.5 for 30 minutes, 0.25 for 15 minutes, 0.75 for 45 minutes

- 3pm = 15      4pm = 16
- 5pm = 17      6pm = 18
- 7pm = 19      8pm = 20]
Nmiss                   0
Opening Time                                N             0
24
Closing Time                                N             0
24
0                       1000
**********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       elig1a  6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q4 ne .
Is your service part of a DEC primary or central school?

[INTERVIEWER NOTE: DEC = 'Department of Environment & Community'
ONLY answer YES if they are located within a DEC facility.
While all childcare centres are licensed by DEC, there are only a few
services attached to DEC schools.]
1       Yes
2       No
Eligibility: DEC service
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       elig2a   1                      _MAKE_
LABEL
MODULE  SUBMODUL
elig1a=2
Do you enrol children with special needs?
1       Yes
2       No
```

```
Eligibility: special needs
********** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 2       elig2b   1                    _MAKE_
LABEL
MODULE  SUBMODUL
elig2a=1
Does your service also enrol children without special needs?
1       Yes
2       No
Eligibility: special needs
********** SINGLE CHOICE - CATI VERSION
**************************
INFO  1         elig1b  9
NOLAB
MODULE  SUBMODUL
elig1a=1 or elig2b=2
Ok, that means that your service isn't one that we need to collect
this information from, so we won't actually proceed with this
survey today.

However, you will still be able to access support
to implement healthy eating and physical activity policies and
practices
in your service.

Your Local Health District will have more information about this.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         elig1c  3
NOLAB
MODULE  SUBMODUL
elig1b=1
Thank you so much for your time today

                  *** Record on log sheet as OS ***
****************** INFORMATION SCREEN ITEM
******************************
CALC            tottime 0
NOLAB
MODULE  SUBMODUL1
elig2a = 2 or elig2b=1
Tottime = Q4N2 - Q4N1;
************************************************
INFO  1         pipeline6
NOLAB
MODULE  SUBMODUL
tottime ne .
A member of the Good for Kids team may request to visit your service
in the coming months, to observe and learn more about the healthy
eating
and physical activity policies and practices that you will be
asked about in this survey.

We'll start with some questions about your service.
****************** INFORMATION SCREEN ITEM
******************************
```

```
CHCE  1 5       Q6      4                       _MAKE_
LABEL
MODULE  SUBMODUL
pipeline=1
The next questions are about meals and snacks.

Do families provide food for any meals or snacks when their child
attends your service?
1       Yes, all meals and snacks
2       Yes, some meals and snacks
3       No, service provides all meals and snacks
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Provide food for meals and snacks
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       menu    8                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 in (2,3,4,5)
The next questions are about the foods and drinks on your service's
menu.
Could you please refer to last week's menu when you answer these
questions.
Do you have a copy of LAST WEEKS' menu in front of you?

[INTERVIEWER NOTE: Prompt with 'do you think it would be easier for
you
to get a copy to have in front of you for this survey?' Allow
respondent
time to find. If they can't, select 'NO' and continue with this
interview
NB. It's OK if it's the menu from this week too].
1       Yes
2       No
Menu in front of you
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 6       t_day   4                                       6
MLTLB
MODULE  SUBMODUL
Menu ne .
On a typical day, what meals and snacks would your service provide
to children?

[INTERVIEWER NOTE: Read out all response options]
1       Breakfast
2       morning tea
3       lunch
4       afternoon tea
5       dinner
6       Other (Please specify)
Meals and snacks provided
Breakfast
morning tea
lunch
afternoon tea
dinner
```

```
Other (Please specify)
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     typ_oth 1
LABEL
MODULE  SUBMODUL
Substr(t_day,6,1)='1'
Please specify other type of meal
Other Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 8       Q7      2                       _MAKE_
LABEL
MODULE  SUBMODUL
typ_oth ne '' or (substr(t_day,1,6) gt '000000' and
substr(t_day,6,1)='0')
In the past week, how often did you serve fruit, including fresh,
frozen
or canned in natural juice, BUT NOT INCLUDING juice or fruit drinks?
1       Never
2       Rarely
3       2 times per week or less
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve fruit
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q8      3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q7 gt .
In the past week, how often did you serve vegetables, including fresh,
frozen or canned, BUT NOT including chips, french fries or potatoes
that
your service cooks in oil?
1       Never
2       Rarely
3       2 times per week or less
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve vegetables
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 18      Q9       5                                      12
MLTLB
MODULE  SUBMODUL
Q8 gt .
In the last week which of the following foods, if any, did your
service
provide during the day? This includes for snacks or at meals.

Please select all that apply
```

```
[INTERVIEWER NOTE: Read out all response options]
1       Fruit or vegetable pieces or platters
2       Confectionary, chocolate, ice cream
3       Fruit bread (e.g. raisin toast), English or
4       [CONT] fruit muffins or pikelets
5       Iced or creamed cakes, lamingtons or donuts
6       Wholegrain or rice crackers or rice cakes
7       Potato chips, corn chips, cheese flavoured snacks
8       [CONT] (such as Twisties or Cheezels).
9       Plain popcorn (no added fat),
10      [CONT] oven baked chips (not oiled)
11      Unsalted pretzels
12      Salted pretzels
13      French fries, hash browns, hot chips (cooked in oil)
14      Dairy snacks (such as yoghurt, cheese, custard)
15      Sweet biscuits with chocolate or cream filling
-16     None of the above
-17     Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
Foods which service provided last week
Fruit or vegetable pieces or platters
Confectionary, chocolate, ice cream
Fruit bread (e.g. raisin toast), English or
[CONT] fruit muffins or pikelets
Iced or creamed cakes, lamingtons or donuts,
Wholegrain or rice crackers or rice cakes
Potato chips, corn chips, cheese flavoured snacks
[CONT](such as Twisties or Cheezels).
Plain popcorn (no added fat),
[CONT] oven baked chips (not oiled)
Unsalted pretzels
Salted pretzels
French fries, hash browns, hot chips (cooked in oil)
Dairy snacks (such as yoghurt, cheese, custard)
Sweet biscuits with chocolate or cream filling
None of the above
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 4       SPECOCC 3                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(Q9,1,15) gt '000000000000000'
Were there any special occasions in the last week, where any of these
foods
were provided to children, but would not normally be provided?
For example for a birthday celebration
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Any special occasions last week
**************** SINGLE CHOICE - CATI VERSION
**************************
NULL  1         null_9  0
NOLAB
MODULE  SUBMODUL
```

```
SPECOCC gt . or substr(Q9,16,3) gt '000'
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q10     1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 = 1 or (Q6 in (2,4,5) and Null_9 = 1)
Does your service monitor lunchboxes?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Monitor lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 7       Q10a    2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10=1
How often do educators monitor the lunchboxes of all children to check
the foods or drinks packed by families?
1       Once per week or less
2       2 times per week
3       Three times per week
4       Four times per week
5       Everyday
6       Don't know [DO NOT READ OUT]
7       Prefer not to say [DO NOT READ OUT]
Educators monitor / check lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Guidline3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10a in (1,2,3,4,5,6,7) or Q10 in (2,3,4)
Does your service have written nutritional guidelines for families
regarding recommended food and drinks brought from home for meals
and snacks?
1       Yes
2       No
3       Don't Know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Written nutritional guidelines
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       provide 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Guidline = 1
In the last 12 months, has your service provided all families with
a copy of the nutritional guidelines regarding recommended foods and
drinks brought from home?
1       Yes
2       No
3       Don't Know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Copy of nutritional guidelines
```

```
********** SINGLE CHOICE - CATI VERSION
**************************
NULL  2         nulla   0
NOLAB
MODULE  SUBMODUL
Provide in (1,2,3,.R) or Guidline in (2,3,.R) or
(Q6 = 3 and Null_9 = 1)
**********************NULL ITEM - DOES
NOTHING**********************
MULT  1 9       Q11     4                                       6
MLTLB
MODULE  SUBMODUL
Nulla = 1
What drinks, if any, does your service provide during the day?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Fruit juice or fruit drink including 100% fruit juice
2       Cordial
3       Water
4       Plain milk
5       Flavoured milk
6       Soft drink
-7      No drinks provided
-8      Don't know [DO NOT READ OUT]
-9      Prefer not to say [DO NOT READ OUT]
Drinks provided during the day
Fruit juice or fruit drink (includes 100% fruit juice)
Cordial
Water
Plain milk
Flavoured milk
Soft drink/flavoured mineral/soda water
No drinks provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 4       Q12     2                                       2
MLTLB
MODULE  SUBMODUL
substr(Q11,4,1) gt '0' and substr(Q2,3,4) gt '0000'
What type of plain milk do you provide for children 2 years of age
and older? Please select all that apply.
1       Full cream
2       Reduced Fat (including lite, low fat and no fat milk)
-3      Don't know [DO NOT READ OUT]
-4      Prefer not to say [DO NOT READ OUT]
Type of Milk provided
Full Cream
Reduced Fat
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NULL  2         nullw   0
NOLAB
MODULE  SUBMODUL
```

```
(substr(Q11,4,1) gt '0' and substr(Q2,3,4) = '0000')
or substr(Q11,4,1) = '0' or substr(Q12,1,4) gt '0000'
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 8       Q13     8                       _MAKE_
LABEL
MODULE  SUBMODUL
nullw=1
How often are structured and specific learning experiences about
healthy
eating implemented as part of your curriculum/program (e.g.
experiential
activities about food knowledge or skills such as cooking, stories,
and vegetable gardens)?

[Interviewer note: this also includes experiential activities about
food,
such as food growing, planting seeds, discussion around 'everyday' and
'sometimes' foods, and puzzles and books about food]
1       Never
2       Rarely
3       Monthly
4       Once per week
5       2-4 times per week
6       Daily
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Specific Learning Experiences
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q14     5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='1'
The next question is about play time for babies at your service.

How many days in the past week were babies (birth - 12 months of age)
provided with supervised floor based play time where they were on
their tummies?
1       Never
2       1 Day
3       2 Days
4       3 Days
5       4 Days
6       Everyday (or every day the service is open)
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Supervisor floor based play time
***************** SINGLE CHOICE - CATI VERSION
****************************
NULL  2         nullx   0
NOLAB
MODULE  SUBMODUL
Q14 in (1,2,3,4,5,6,7,8) or
(Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='0')
************************NULL ITEM - DOES
NOTHING************************
```

```
INFO  1         Q15info 6
NOLAB
MODULE  SUBMODUL
(Nullw=1 and substr(Q2,3,4) gt '0000') or nullx=1
The next couple of questions are about the amount of time available
for
physical activity during a usual day for toddlers and preschool age
children.

These questions specifically relate to children aged 1-5 years, in
your
care.
******************* INFORMATION SCREEN ITEM
*******************************
TABL  1 20      Q15     8    MM
NOLAB
MODULE  SUBMODUL2
Q15info = 1
You mentioned earlier that your service is open for about ^tottime^
hours
each day.
On average how much time each day, do children spend participating in
educator led structured active play such as circle time, music,
dancing
or planned activities to develop movement skills?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                                N              0
100
Time in Minutes                              N              0
60
0                       1000
*********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      Q16     6    MM
NOLAB
MODULE  SUBMODUL2
Q15 ne .
And on average how much time each day do children have available to
spend in child-initiated, free physically active play?  This includes
both indoor and outdoor free active play.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                                N              0
99
Time in Minutes                              N              0
60
0                       1000
*********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      Oply    4    MM
NOLAB
MODULE  SUBMODUL2
Q16 gt .  and (Q16N1 gt 0 or Q16N2 gt 0)
```

```
And on average, how much of this time each day is outdoor play?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                    0
Time in Hours                                N              0
99
Time in Minutes                              N              0
60
0                        1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  1          nully   1
NOLAB
MODULE  SUBMODUL
Oply gt . or Q16 gt .  and (Q16N1=0 and Q16N2=0)
Nullw=1 and substr(Q2,4,3) = '000'
************************NULL ITEM - DOES
NOTHING************************
INFO  1          Q17info 10
NOLAB
MODULE  SUBMODUL
nully=1 and substr(Q2,4,3) gt '000'
The next question refers to the development of Fundamental Movement
Skills (FMS) of children aged 3-5 years at your service.

For the purposes of this survey, FMS refers to basic gross motor
movement
skills such as running, catching, jumping, kicking and the like.

[IF NECESSARY: It also includes galloping, leaping, hopping, ball
dribbling, side-sliding, striking a ball, underarm rolling and over
arm throwing. Development of such skills involves educators
explaining,
demonstrating and providing feedback to children for each skill.]
******************* INFORMATION SCREEN ITEM
******************************
CHCE  1 8        Q17     6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q17info = 1
On how many days in the last week did your service Educators lead
structured activity to develop Fundamental Movement Skills for all
children at your service?

This could have been during a transition activity, group or circle
time or during outdoor play.
1        Never
2        1 Day
3        2 Days
4        3 Days
5        4 Days
6        Everyday
7        Don't know [DO NOT READ OUT]
8        Prefer not to say [DO NOT READ OUT]
Lead structured activity
***************** SINGLE CHOICE - CATI VERSION
***************************
```

```
NUM   1         Q17a    6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q17 in (2,3,4,5,6,7,8)
On days where structured activities to develop Fundamental Movement
Skills
occurred what percentage of the 3 to 5 year olds at your service would
usually participate?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       100
0                       1000
Percentage of children participating
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NULL  1         null_A  0
NOLAB
MODULE  SUBMODUL
Q17a ne . or Q17=1 or (nully=1 and substr(Q2,4,6) = '000')
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 9       Q18     7                       _MAKE_
LABEL
MODULE  SUBMODUL
null_A and substr(Q2,4,3) gt '000'
The next questions refer to time spent watching TV, videos or DVD by
3 to 5 year olds.

On average, on how many days each week would children spend time
watching just television, videos or DVDs?

[Interviewer note:  NOT computers, electronic games, ipads/tablets.]
1       Never
2       Less than 1 day a week
3       1 day
4       2 days
5       3 days
6       4 days
7       Everyday
8       Don't know [DO NOT READ OUT]
9       Prefer not to say [DO NOT READ OUT]
SSR days per week
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 7       Q18a    6                                       5
MLTLB
MODULE  SUBMODUL
Q18 in (2,3,4,5,6,7,8,9)
For which of the following purposes do children aged 3 to 5 years at
your
service spend time watching just television, videos or DVDs?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
- read 'info re:' as 'INFORMATION ABOUT A specific learning area'
1       To gain knowledge/share info re:a specific learnin area
2       For child amusement, enjoyment or entertainment
```

```
3       To facilitate exploration of activity,dance or movement
4       For "down time" or "quiet time"
5       For another purpose
-6      Don't know [DO NOT READ OUT]
-7      Prefer not to say [DO NOT READ OUT]
Purposes for watching Videos
To gain knowledge / share information about a specific learning area
For child amusement, enjoyment or entertainment
To facilitate exploration of activity, dance or movement
For "down time" or "quiet time"
For another purpose
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
********************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q18ai   1
LABEL
MODULE  SUBMODUL
Substr(Q18a,5,1) = '1'
Please specify the other purpose
SSR use - other purpose
******************* OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 9       SSR2    6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q18=1 or (substr(Q18a,5,1)='0') or Q18ai gt ''
On average, on how many days each week would children spend time
watching
television, videos or DVDs, or *ALSO* using computers, other
electronic
games, iPads or tablets?


[INTERVIEWER NOTE: everything except smartboards / electronic
whiteboards]
1       Never
2       Less than 1 day a week
3       1 day
4       2 days
5       3 days
6       4 days
7       Everyday (or every day the service is open)
8       Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
All SSR use days per week
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 7       SSR2a   7                                       5
MLTLB
MODULE  SUBMODUL
SSR2 ne 1
For which of the following purposes do children aged 3 - 5 years at
your
service spend time watching television, videos or DVDs, or using
computers,
electronic games, iPads or tablets?
```

```
Please select all that apply.

- read 'info re:' as 'INFORMATION ABOUT A specific learning area'
1       To gain knowledge/share info re:a specific learning area
2       For child amusement, enjoyment or entertainment
3       To facilitate exploration of activity, dance or movement
4       For "down time" or "quiet time"
5       For another purpose
-6      Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
Purposes for watching all SSR
To gain knowledge /share info re:a specific learning area
For child amusement, enjoyment or entertainment
To facilitate exploration of activity, dance or movement
For "down time" or "quiet time"
For another purpose
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     SSR2b   1
LABEL
MODULE  SUBMODUL
substr(SSR2a,5,1) = '1'
Please specify the other purpose
SSR use - other purpose
****************** OPEN ENDED ENTRY ITEM
********************************
TABL  1 20      Q18d    6    MM
NOLAB
MODULE  SUBMODUL2
substr(SSR2a,5,1) = '0' or SSR2b gt ''
On days when children aged 3 to 5 years at your service watch TV,
videos,
DVDs or play computer games, for how long would they spend doing these
things?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                                   N               0
100
Time in Minutes                                 N               0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  1         nulli   0
NOLAB
MODULE  SUBMODUL
(null_A and substr(Q2,4,3)= '000') or  Q18d ne . or SSR2=1
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 6       Q18e    2                       _MAKE_
LABEL
MODULE  SUBMODUL
nulli=1 and Q2 ne '000100' and Q2 gt '000000'
In your service, how often are television, videos and DVDs, including
```

```
educational programs and videos, viewed by children aged 0-2.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
5       Don't know [DO NOT READ OUT]
6       Prefer not to say [DO NOT READ OUT]
How often watch videos
***************** SINGLE CHOICE - CATI VERSION
***************************
TABL  1 20      wviw    5    MM
NOLAB
MODULE  SUBMODUL2
Q18e = 4
In a typical week, for how long would children aged 0-2 watch
television,
videos and DVDs across the entire week?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
100
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  2         nullv   0
NOLAB
MODULE  SUBMODUL
(nulli=1 and Q2='000100') or wviw ne . or
Q18e in (1,2,3,5,6)
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q19     3                      _MAKE_
LABEL
MODULE  SUBMODUL
nullv = 1
Is your service aware of 'Get up and Grow', the Australian Government
Healthy Eating and Physical Activity Guidelines for Early Childhood
Education and Care?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Aware of 'Get up and Grow'
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q20     3                      _MAKE_
LABEL
MODULE  SUBMODUL
Q19 ne .
Does your service have a written nutrition policy?

[Interviewer note: this can be combined with another policy]
1       Yes
2       No
```

```
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written nutrition policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q21     3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q20 gt .
Does your service have a written physical activity policy?

[Interwiewer note: this can be combined with another policy]
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written physical activity policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q22     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q21 gt .
Does your service have a written policy restricting child viewing of
TV,
DVDs or Videos?

[Interviewer note: this can be combined with another policy]
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q22a    1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22=1 and Q19=1
Is your policy consistent with 'Get Up and Grow?'
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy consistent with GUAG?
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q23     5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22a in (1 2 3,4) or Q22 in(2 3 4) or (Q22=1 and Q19 in (2 3 4))
Does your service have a written policy that promotes healthy eating
and physical activity practices and programs that are sensitive to
the needs of minority or disadvantaged groups attending your service?

[Interviewer note: this can be combined with another policy]
1       Yes
```

```
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Minority policy?
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       Q24     9                       _MAKE_
LABEL
MODULE  SUBMODUL
Q23 gt .
Each year, does your service monitor and report, internally or
externally, on its achievement of the healthy eating and physical
activity objectives as stated in written policies, guidelines,
or other documents?

[Interviewer note: eg. Annual reports ; Business / Service plans;
Quality Improvement Plan/s; Munch & Move action plan; Service daily
diaries
(for families to view), or Reflection of achievements
in a Service newsletter]
1       Yes
2       No
3       Service doesn't have HE/PA objectives
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Monitor and report against objectives
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       QIP     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q24 gt .
Does your service include healthy eating and physical activity
objectives
in your Quality Improvement Program?

[INTERVIEWER NOTE: If "yes", prompt "and is that for HE, PA or both?"
1       Yes - Healthy Eating
2       Yes - Physical Activity
3       Yes - Both HE & PAS
4       No - Neither
5       Don't Know
Include healthy eating in quality program?
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 5       Obj     3                                       5
MLTLB
MODULE  SUBMODUL
QIP in (1,3)
And do you report against the healthy eating objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don't report
```

```
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Obj_oth 1
LABEL
MODULE  SUBMODUL
Substr(OBJ,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
*******************************
MULT  1 5       Obj2    3                                       5
MLTLB
MODULE  SUBMODUL
QIP = 2 or (QIP = 3 and (Obj_oth ne '' or substr(OBJ,4,1)='0' and obj
gt '00000'))
And do you report against the physical activity objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don’t report
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Obj_oth21
LABEL
MODULE  SUBMODUL
Substr(OBJ2,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
*******************************
NULL  2         null_obj0
NOLAB
MODULE  SUBMODUL
Obj_oth2 ne ' ' or (substr(OBJ2,1,5) gt '00000' and
substr(OBJ2,4,1)='0')
or QIP in (4,5) or (QIP = 1 and (Obj_oth ne ' ' or substr(OBJ,1,5) gt
'00000'))
************************NULL ITEM - DOES
NOTHING************************
MULT  1 8       Q25     8                                       6
MLTLB
MODULE  SUBMODUL
Null_obj = 1
```

```
In the last 12 months, have you sent information home to families
from a recognised health authority for any of the following topics?

This would include material handed directly to parents, mailed or
emailed
or placed in their child's pigeon hole or bag, or information included
in
newsletters or at orientation. Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Immunisation
2       HE for children (includes list of foods for lunchboxes/lunch
ideas)
3       Physical activity for children
4       Oral hygiene for children
5       Limiting screen time for children
-6      No information is provided
-7      Don't know [DO NOT READ OUT]
-8      Prefer not to say [DO NOT READ OUT]
Sent information home on:
Immunisation
Healthy eating for children (includes list of recommended foods for
lunch boxes)
Physical activity for children
Oral hygiene for children
Limiting screen time for children
No information is provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 2       Q25a    2                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1) gt '0'
In the last 12 months, have you sent information home to families
from a recognised health authority about breastfeeding
1       Yes
2       No
Info home about breastfeeding
***************** SINGLE CHOICE - CATI VERSION
**************************
INFO  1         info_ed 2
NOLAB
MODULE  SUBMODUL
(substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1)='0') or Q25a in
(1,2)
The next questions are about healthy eating and physical activity
training opportunities provided to your staff
****************** INFORMATION SCREEN ITEM
******************************
NUM   1         Q26a    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Info_ed = 1
How many primary contact educators are working at your service?

[INTERVIEWER NOTE: Do not read out:
```

```
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Usual numbers of workers
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q27     13   MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q26a gt 0 and Q26a ne .
How many of your primary contact educators have received training in
the
past 3 years regarding promoting child HEALTHY EATING?

This includes training provided by an external agency or by other
trained
staff in your service.
 [INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].

[Interviewer note:  Examples of training include Munch&Move 1 day
workshop
Educator-led inservice using the "Staff Development Kit" (this could
be presented over a number of staff meetings); LHD workshops on
healthy eating & FMS; LHD providing an inservice on Munch&Move key
messages;
Training provided through a Registered Training Organisation.]
0                       20
0                       1000
Number received HE training in last 3 years
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       HE12mths2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q27 gt 0
Have any of your primary contact educators participated in training
promoting healthy eating or nutrition in the past 12 months?
1       Yes, all have
2       Yes, some have
3       No, none have
4       Don't know
.R      Refused
Healthy Eating training in last 12 months
***************** SINGLE CHOICE - CATI VERSION
***************************
NUM   1         HEtraind4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
He12mths=2 or HE12mths=1 AND Q26a in (777,888,999)
How many of your primary contact educators took part in that training?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Number received HE training in last 12 months
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   2         Q28     13   MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q27 =0 or HE12mths in (3,4,.R) or HEtraind ne . or
HE12mths= 1 AND Q26a not in (777 888 999)
How many of your primary contact educators have received training in
the
past 3 years regarding promoting child PHYSICAL ACTIVITY??

This includes training provided by an external agency or by other
trained
staff in your service.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
[Interviewer note: eg. Munch&Move 1 day workshop, educator-led
inservice
using the "Staff Development Kit" (this could be presented over a
number of
staff meetings), LHD workshops on healthy eating and FMS; LHD
providing
an inservice on Munch&Move key messages; and training provided through
a
Registered Training Organisation]
0                       20
0                       1000
Number received PA training in last 3 years
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PA12mths2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q28 ne 0
Have any of your primary contact educators participated in training
promoting physical activity in the past 12 months?
1       Yes, all have
2       Yes, some have
3       No, none have
4       Don't know
.R      Refused
Physical Activity training in last 12 months
***************** SINGLE CHOICE - CATI VERSION
***************************
NUM   1         PAtraind4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PA12mths = 2
How many of your primary contact educators took part in that training?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Number received PA training in last 12 months
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
```

```
CHCE  1 2       BLINDING5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q28=0 or PA12mths in (1,3,4,.R) or PAtraind ne .
[DO NOT READ QUESTION OUT: INTERVIEWER ONLY]

Do you believe that this person is from a service involved in the
12month intervention or from a service that did not receive any
Good for Kids support (control group)?
1       Intervention Group
2       Control Group
Interviewer estimation of intervention or control group
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       CONTAM  4                       _MAKE_
LABEL
MODULE  SUBMODUL
Blinding gt .
Have you received any of the following from the Good for Kids program
over the past 12 months;
printed resources, educator training, site visits, telephone or
face-to-face support from Good for Kids staff?
1       Yes
2       No
3       Don't Know
.R       Refused
Did service receive G4K support in last 12 months
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     CONTAMO 4
LABEL
MODULE  SUBMODUL
CONTAM = 1
What support did you receive?

[INTERVIEWER NOTE: please be specific about source of information
e.g. G4K, Heart Foundation etc, and what information was provided]
Printed materials received
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         Accinfo 6
NOLAB
MODULE  SUBMODUL
(CONTAMO gt '' or CONTAM in (2,3,.R)) and timegp=1
The next few questions are about the support you have received from
Good for Kids support staff over the past 12 months.

I am going to read you a series of statements.
For each statement, could you please tell me whether you
strongly agree, agree, disagree, or strongly disagree.
****************** INFORMATION SCREEN ITEM
*****************************
CHCE  1 5       ANPHASUM2                       _MAKE_
LABEL
MODULE  SUBMODUL
Accinfo=1
The support that our service received from Good for Kids support
officers
```

```
over the past 12 months was beneficial to our service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Did G4K support improve HE & PA
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC1    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ANPHAsum gt .
I felt comfortable talking to staff about changes to our service's
healthy eating and physical activity policies and practices at
staff meetings or during educator training sessions.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Comfortable talking HE&PA to staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC2    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC1 gt .
I would have liked MORE support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Wanted more support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC3    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC2 gt .
I would have liked LESS support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Wanted less support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC4    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC3 gt .
The face-to-face support provided by support officers over
the past 12 months was acceptable
```

```
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Face-to-face support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC5    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC4 gt .
The telephone support provided by support officers over the past
12 months was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Telephone support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC6    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC5 gt .
Discussions following each educator training to reach consensus on
changes to healthy eating and physical activity practices at our
service
were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Discussions to reach consensus were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC7    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC6 gt .
Training provided by support officers regarding healthy eating and
physical activity was beneficial for staff
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
HE&PA training was beneficial for staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC8    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC7 gt .
The resources provided by the Good for Kids program (such as
sample policies, FMS lanyards, healthy food guidelines, and
```

```
lunchbox resources for parents) were useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Resources were useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC9    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC8 gt .
The on-site visits by support officers following each
educator training session were helpful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
On-site visits post-training were helpful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC10   1                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC9 gt .
The Good for Kids newsletters provided to our service were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
G4K newsletters were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC11   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC10 gt .
Feedback from support officers (provided via telephone, during
one-on-one meetings and/or via written templates or emails) about our
service's HE and PA policies and practices was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
SO feedback was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC12   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC11 gt .
Changing our services healthy eating and physical activity
policies and practices was difficult
1       Strongly Agree
```

```
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Changing policies & practices was hard
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC13   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC12 gt .
Implementing the healthy eating and physical activity policies and
practices was disruptive and too time consuming
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Implementing HE&PA p&ps disruptive &time consuming
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC14   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC13 gt .
Ongoing support from Good for Kids support officers to implement the
healthy eating and physical activity practices would be useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Ongoing SO support would be useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC15   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC14 gt .
I am supportive of implementing the Good for Kids healthy eating and
physical activity policies and practices in my service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Support for implementing HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC16   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC15 gt .
Educators at my service are motivated to implement the Good for Kids
healthy eating and physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
```

```
4       Strongly Disagree
.R      Refused
Educators motivated to implement HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC17   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC16 gt .
Educators have a role to play in implementing the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Educators have a role in implementation
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC18   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC17 gt .
I am confident in implementing the healthy eating and physical
activity
policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Confidence in implementing HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC19   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC18 gt .
I have sufficient skills to implement the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Sufficient skills to implement HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC20   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC19 gt .
I have sound knowledge on children's nutrition and physical activity
requirements while in care
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
```

```
.R      Refused
Knowledge of nutrition & PA requirements
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC21   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC20 gt .
Implementing the HE and PA policies and practices recommended by the
Good for Kids program has had a negative impact on other areas of
children's learning or development
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Neg impact of HE&PA p&ps on other areas
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      Advc    3    MM
NOLAB
MODULE  SUBMODUL4
ACC21 gt . or ((CONTAMO ne '' or CONTAM in (2,3,.R)) and timegp=2)
During the last 12 months, approximately how many children have
been injured requiring documentation? Please respond with both
serious injuries and minor injuries.
Nmiss                   0
Serious injuries                            N              0
50
Minor injuries                              N              0
1000
Don't know                                  B    1
Refused                                     B    1
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NUM   1         Advs    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Advc gt .
During the last 12 months, approximately how many staff have been
injured requiring documentation?

[INTERVIEWER NOTE: "Don't know" =888, "Refused/Prefer not to say"
=999]
0                       400
0                       1000
Number of staff injured
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NULL  1         nullacc 0
NOLAB
MODULE  SUBMODUL
advs gt .
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 3       Valq    12                      _MAKE_
LABEL
```

```
MODULE  SUBMODUL
Nullacc=1 and Valstudy=1
You might also remember that someone from the Good for Kids team
visited
your service in February or March last year, to learn more about your
day to day activities. We are conducting these visits again in the
next
few months - you would have noticed this mentioned in the
information letter.

Would you consent to one or two people from the Good for Kids team
coming
to your service and making similar observations at some stage in the
next
few months?

[Interviewer note: we are unsure of exact dates but when they are
conducted, times will be scheduled around the service's convenience]
1       Yes
2       No
.R      Refused
Valstudy services consent to visit
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 3       Valqcon 2                       _MAKE_
LABEL
MODULE  SUBMODUL
Valq=1
I have an electronic copy of the information sheet and the consent
form.
Could I please email it to you for you to complete and return?
1       Yes
2       No
.R      Refused
Electronic consent form
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     Email4ov1
LABEL
MODULE  SUBMODUL
Valqcon=1
What is your email address?
Email for consent form
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         Emlthanx7
NOLAB
MODULE  SUBMODUL
Email4ov gt ''
Thankyou, and we'd appreciate it if you could please return it at your
earliest possible convenience.

[INTERVIEWER NOTE: Forms can be returned via fax, mail, or collected
in person by a Good for Kids team member. If required, a reply paid
envelope can be sent to the centre for return of the consent form.
Note this on log sheet]
****************** INFORMATION SCREEN ITEM
*******************************
```

```
CHCE  2 4       Q29     8                       _MAKE_
LABEL
MODULE  SUBMODUL
Emlthanx=1 or Valqcon in (2,.R) or Valq in (2,.R)
or (nullacc=1 and Valstudy ne 1)
And lastly, do you have any comments about implementing healthy eating
and
physical activity practices in your centre that you would like NSW
Health
to be aware of?  It could be about your experiences of implementing
such
practices in your service, about this survey, or anything else you
think
is important to mention?

[INTERVIEWER NOTE: IF NECESSARY
 - "I can jot down one or two comments you may have.]
1       Yes (Specify)
2       No
3       Don't know
4       Prefer not to say
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 400     Q29o    1
LABEL
MODULE  SUBMODUL
Q29=1
[INTERVIEWER NOTE: Type comments here]
COMMENT - OPEN
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         info_tnk3
NOLAB
MODULE  SUBMODUL
Q29o ne '' or Q29 in (2,3,4)
Thank you so much for answering those questions. The information
you've
provided will be used to help develop, deliver and evaluate healthy
eating and physical activity programs to children's services.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         callname2
NOLAB
MODULE  SUBMODUL
Info_tnk = 1 and (random5a=1 or random5b=1)
We'll call the centre again in the next few weeks to try and talk to
the room leader.
****************** INFORMATION SCREEN ITEM
*******************************
NULL  1         null5   0
NOLAB
MODULE  SUBMODUL
Callname = 1 or (Info_tnk = 1 and (random6=1 or random7=1))
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 3       menufax 7                       _MAKE_
LABEL
```

```
MODULE  SUBMODUL
null5=1 and Q6 in (2,3)
And, if at all possible, it would be great if you could send through
a copy of your service's menu from last week to us.

Would you be willing to fax that through?

[INTERVIEWER NOTE: If they ask, they can also email through to
Alison.Fielding@hnehealth.nsw.gov.au]
1       Yes
2       No
3       Not applicable
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Menufax19
NOLAB
MODULE  SUBMODUL
menufax=1
Thank you so much.

I'll give you the fax number, do you have a pen?

The number is 4924 6209,
and could you please 'Attention' it to Alison Fielding.

[INTERVIEWER NOTE: If they ask, they can also email through to
Alison.Fielding@hnehealth.nsw.gov.au]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         Menufax21
NOLAB
MODULE  SUBMODUL
menufax in (2,3)
Ok - that's not a problem.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         INFOEND 2
NOLAB
MODULE  SUBMODUL
(null5=1 and Q6 in (1,4,5)) or Menufax1=1 or Menufax2=1
Thanks again for giving up your time today to talk to us.
We really appreciate it. Thanks for your help and have a lovely day.
****************** INFORMATION SCREEN ITEM
******************************
TIME  1         T_END   0
LABEL
end     time
INFOEND = 1
Recording end time
****************** GET DURATION ITEM
************************************
OPEN  1 600     commh   5
LABEL
MODULE  SUBMODUL
T_END gt .
[INTERVIEWER NOTE: use this space to record any information that you
 think the GFK team should know - Thank you!]
```

```
[INTERVIEWER NOTE: If no comments, type 'nil']
                   *** Record on log sheet as CQ ***
Interviewer comments
****************** OPEN ENDED ENTRY ITEM
********************************
STAT  1         STAT_CQ 1
NOLAB
end     stat
commh gt ''
Completed
CQ
*************************************************************************
*****
STAT  1         STAT_CB 1
NOLAB
CB     stat
callback = 1
Callback
CB
*************************************************************************
*****
STAT  1         STAT_DR 1
NOLAB
DR     stat
Refused ne '' or decline ne ''
Refused
DR
*************************************************************************
*****
STAT  1         STAT_OS 1
NOLAB
OS      stat
elig1c=1
Out of scope
OS
*************************************************************************
*****
STAT  1         STAT_OT 1
NOLAB
OT      stat
res_oth ne ' '
Other
OT
*************************************************************************
*****
STAT  1         STAT_OP 1
NOLAB
OP      stat
service4=1
Other reason
OP
*************************************************************************
*****
STAT  1         STAT_WN 1
NOLAB
WN      stat
service6=1
```

```
Wrong number
WN
************************************************************************
*****
INFO  1         Status1 3
NOLAB
MODULE  SUBMODUL
stat_cq='CQ'
THIS INTERVIEW IS A "CQ". WELL DONE!

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status2 3
NOLAB
MODULE  SUBMODUL
stat_cb='CB'
THIS INTERVIEW IS A "CB".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status3 3
NOLAB
MODULE  SUBMODUL
stat_DR='DR'
THIS INTERVIEW IS A "DR".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status4 3
NOLAB
MODULE  SUBMODUL
stat_OS='OS'
THIS INTERVIEW IS AN "OS".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status5 3
NOLAB
MODULE  SUBMODUL
stat_OT='OT'
THIS INTERVIEW IS AN "OT".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status6 5
NOLAB
MODULE  SUBMODUL
stat_OP='OP'
THIS INTERVIEW IS AN "OP".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
```

```
************************* INFORMATION SCREEN
****************************
INFO  1         Status7 5
NOLAB
MODULE  SUBMODUL
stat_WN='WN'
THIS INTERVIEW IS A "WN".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
************************* INFORMATION SCREEN
****************************
INFO  2         TERM    2
NOLAB
END     Term
status1=1 or status2=1 or status3=1 or status4=1 or status5=1 or
status6=1 or status7=1
INTERVIEWER TERMINATION INSTRUCTION, PRESS STOP
AND RECORD OUTCOME OF INTERVIEW ON LOG
************************* INFORMATION SCREEN
****************************
```

GOOD FOR KIDS SITE VISITS

Data collection

Training and procedures manual

(Version 4 – July 2014)

Contents

1. Important Contacts

Who	Number and availability	Reasons
Shanthi Ramanathan, HVRF Project Manager	Phone: 4041 5155 Mobile: 0431 094 468	• Sick, not coming to work • Running late to service • Lost • Problems with recruitment timetable/equipment etc.
Clare Hogue, HVRF Assistant Project Manager	Phone: 4041 5555	• If Shanthi not available • Sick, not coming to work • Running late to service • Lost Problems with recruitment timetable/equipment etc.
Alison Fielding, Hunter New England Population Health Project Coordinator	Mobile: 0407 802 684	• If Shanthi/Clare not available • Urgent problems with service or data collection
Jannah Jones, Hunter New England Population Health PhD student	Phone: 4924 6437 Mobile: 0478175669	• If Shanthi/Clare not available • Urgent problems with service or data collection

Emergency	000
NRMA	Breakdown, flat tyre, flat battery 131111

2. Overview of Site Visit Study

Aim

- To contribute to the development and evaluation of initiatives to improve the healthy eating and physical activity policies and practices in childcare services
- To observe the routine healthy eating and physical activity practices of childcare services
- To observe the healthy eating and physical activity policies of childcare services
- To observe child physical activity levels and dietary intake

3. Preparation for the Site Visits

Prior to site visit:

RA (Population Health) to complete pre-visit check:

- Nominated Supervisor has consented
- Nominated Supervisor has completed CATI survey
- Preschool Room Leader has completed CATI survey
- RA has called Nominated Supervisor to confirm date and time of visit, and provided names of team members who will be attending

On the day:

Please bring the following items with you each day you attend a childcare service:

- Photo ID badge
- Sunscreen, hat and sunglasses
- Lunches (please exclude nuts and eggs)
- Closed in comfortable shoes
- Charged mobile phone

Before you leave HVRF:

Ensure you have picked up the following items:

- A list of contact phone numbers
- 2 copies of data collection tool
- Spare information statements for Nominated Supervisors
- Clip board, pens and pacers
- Map and directions to the service
- Nominated Supervisor contact details
- Car keys

4. Data Collection Tasks

1. Arrive 15 minutes before the Service opens.
2. Introduce yourself to the Nominated Supervisor and any other staff
3. Briefly reminder the Nominated Supervisor of what you'll be doing throughout the day
   - observing the room for preschool children (the room where the Room Leader who completed the recent CATI call works – listed on the front of the site visit pack)
   - standing out of the way, observing the daily goings on in the service - the physical environment, what the kids do, what the staff members do etc
   - following around as the kids move around the centre
4. Arrange a time for a 10 minute interview with the Nominated Supervisor (to locate policy / programming documents etc).
5. Start recording from 9am
6. Conduct site visit observation
7. Stop recording at 3pm.

5. Documents to Collect

Speak with the Nominated Supervisor in the morning after you arrive for data collection and arrange a suitable time to have a collect documents (explain that you can take a photocopy / photograph, or that they can fax the documents through later).

Ask if the Nominated Supervisor can locate:

- Physical activity policy
- Nutrition policy
- Copy of this week's program
- Qa(QIP) Information related to healthy eating and physical activity
- Orientation manual

It may be easiest to view / copy these documents during nap time.

Take copies of all relevant documentation if possible. If photocopying is not available – ask the Nominated Supervisor to email to Alison.Fielding@hnehealth.nsw.gov.au or fax to 4924 6209.

If the Nominated Supervisor will be emailing/faxing – ensure Alison is aware to follow this up

6. Physical Activity Observation - SOPLAY

(definition and description taken from McKenzie, 2006, System for Observing Play and Leisure Activity in Youth (SOPLAY protocol)

What is SOPLAY?

- **System for Observing Play and Leisure Activity in Youth**
- SOPLAY is a validated tool for **directly observing physical activity and associated environmental characteristics** in free play settings.
- SOPLAY provides objective data on the **number of participants and their physical activity levels** during play and leisure opportunities **in targeted areas**.
- **Separate visual scans are made for male and female children.**
- Designed to capture **behavioural and contextual information in groups** of (rather than individual) children and adolescents.

Key words:

Target area: a predetermined observation area in which students may potentially engage in physical activity. A number of target areas will be established for each preschool.
Scan Space: A subdivision of a target area in which the assessor makes an observation scan. Target areas are divided into Scan Spaces when the number of students is large and they are engaged actively.
Scan: A single observations movement from left to right across a Target Area or Scan space. During a sweep, each individual student in the area is counted and coded as being Sedentary (S), Walking (W), or Very Active (V)

How is the measurement taken?

- Observers will need to complete a SOPLAY assessment scan every 10 minutes during outdoor free play, indoor free play and structured play.
- During a scan, observers electronically count the activity level of each individual child as:
    - Sedentary (lying down, sitting or standing)
    - Walking
    - Very active (any activity with greater physical exertion that walking)
- Separate, simultaneous entries for girls and boys are made every 10 minutes for the length of the free play session.
- Always scan from left to right. The child's physical activity level is coded according to their physical activity level at the time they are viewed in the scan. If the observed child reappears in a scan area, do not record a second time. Do not back track to include children who have just entered the scan area.
- Observers must follow the children around as they engage in free or structured play both indoors and outdoors.
- Outdoor free play, indoor free play and structured play are to be recorded on separate data coding sheets.
- Additional information including the time, weather, equipment provision, are recorded on the form in the marked areas. You will not need to record as accessible, usable, supervised or organised or record the specific physical activities of the children.
- For observations in long day care centres, we will collect data on all children in the preschool area (unless it is obvious that they are < 3 years old e.g. baby).

- Reliability measures are conducted, where 2 observers will visit the same preschool at the same time to ensure consistency between the observers. If you are conducting a reliability measure, the primary observer and reliability observer should stand next to each other and scan the target areas at the same time; however observations should be independent and not discussed between observers.

Physical activity categories:

Physical activity category	Examples of activities/movement
Sedentary	Lying down, sitting or standing (as long as her/she is not expending greater energy than an ordinary walk)
Walking	Walking at a pace up to moderate level, pivoting, transferring weight from one foot to another
Very active	Expending at a higher rate than an ordinary walk, running/jogging, fast walking, jumping, climbing, skipping, lifting, bike riding, hand stands.

Before you start:

- On arrival at the preschool (before starting the SOPLAY assessments) you will need to write description of the play area (unlike SOPLAY on the DVD, preschools will likely only have 2-3 target areas). Ensure that you make defined boundaries and do not count children outside if this area in the SOPLAY assessment.
- Ensure that you are standing in a place that permits observation to the entire area and all children.

Problems that you many encounter and solution:

- If there is too many children to count in a target area, then divide the target area into a smaller scan space (make sure you specify this on the data sheet).
- If there is equipment blocking your view, then move to a new position before beginning to record.
- Unable to decipher if boys or girls – make your best guess as to their gender.
- If the battery in the digital tally counter gets low, replace the battery immediately before starting a new scan (no memory in counter).

Materials needed:

- SOPLAY data recording form x 3 (outdoor free play, indoor free play and structured play)
- clipboard
- digital tally counter (including spare batteries)
- mobile phone or stop watch (alarm reset every 10 minutes)
- pen/pencil

Training involved (total 2 hours over 2 days):

Day	Description	Time
1	Brief verbal explanation on SOPLAY	5 minutes
1	1 x introductory DVD that introduces the observation system and terminology	15-20 minutes
1	Discussion, practice using digital tally counter and filling in forms	10 minutes
1	1 x practice DVD with answers following the video samples	6-10 minutes
2	1 x practice video session of children in preschool setting	10-20 minutes
2	Real life scenario coding	20 minutes
2	1 x assessment DVD to assess observer's ability to code quickly and accurately. Observers will independently code video samples which will be assessed to ensure competence in using SOPLAY.*	5 minutes

**Please note: Observers must be coded as competent in using SOPLAY prior to visiting childcare services*

7. Dietary Intake Observation

General Instructions

1. Select three children for observation based on who has had the most recent Birthday or randomly choose three children at the beginning of the day if staff do not know most recent Birthdays
2. Record a distinguishing physical description/characteristic for each child so that you can easily identify them across the day.
3. Record **food and drink** intake at each meal occasion (morning snack, lunch and afternoon snack) in as much detail as possible using the data collection forms within the data collection tool

Specific Instructions

<u>Foods</u>

- Estimate quantities using common measures such as: teaspoons (t), tablespoons (T) and cups (C) wherever possible (do not estimate gram weights)
- **It's ok to:**
  - Use standard portion sizes for well-known standard items: eg: slices of bread (specify sandwich or toast-sliced), round rice crackers, whole egg
  - Use quantities such small/medium/large for standard whole food items (eg whole fruits like apples or bananas)
  - Estimate dimensions of foods in centimetres, particularly if it is a non-standard food item or difficult to estimate in common measures eg home-made muffin 5cm high and 5cm across
- For mixed dishes, it is ok to estimate and record quantities for the main components/food group only, for example: spaghetti bolognaise (1 cup TOTAL), made with pasta (50% or ½ cup), beef mince sauce (25% or ¼ cup) and mixed vegetables (carrots, beans, peas; 25% or ¼ cup)
- You do not need to estimate quantities of condiments or each individual ingredient in a mixed dish if these are small/difficult (eg number of sultanas in a cookie, amount of jam in a sandwich) but still record item in the description

- If is a detail about an item is unclear, record it as unspecified (US) eg type of milk (full cream or low fat)
- Packaged foods and drinks:
  - Include brand names wherever possible (packaged foods and drinks)
  - Can record food weight in grams or volume in mls if this can be read from the package and record amount remaining as a proportion or percentage eg ½ or 50%
- Amount +/- is amount added or wasted. eg added: second serving, wasted: dropped on ground

Drinks

- Record water as a drink item but you do not need to quantify how much is served/remaining
- Record and quantify all other drinks served in either mls or cups, whichever is most accurate/easiest for you

Food groups to focus on

Although detail for all food types is ideal, we are particularly interested in the consumption of certain food groups to evaluate the potential impact of our intervention. Therefore, it is most important to get detailed information (type and amount) for the following food categories:

- Fruit
- Vegetables
- Dairy products
- Snack items (including 'healthy' and 'unhealthy' items)
- Drink options (including healthy and less healthy options including sugar sweetened options)

Key definitions for recording intake

Data Collection Tool Heading	Definition
Food and Drink Items	Overall description of the food item provided/served. For example: milk, fruit salad, stir fry, biscuit
Description/Detail	Detail about the type and composition of the food item. This includes: Details about food where identifiable eg wholegrain, white, plain/flavoured, low fat, commercial, home-made, served by centre, tinned, fresh, peeled/unpeeled (fruit) Shape of food where appropriate (eg sliced, diced grated, wedges, specific type) For mixed dishes (eg stir-fries, casseroles, pastas, sandwiches), list each identifiable food included
Amount served	The quantity of food served at (including all items taken out of the lunchbox for consuming during the mealtime, items provided/served from the centre and items shared from other children).
Amount +/-	Quantity of food/drink items added or wasted. Added = second servings; Wasted = dropped/ spilled/ spat out etc
Amount remaining	Quantity of food/drink leftover / not consumed (or wasted) by the end of the mealtime

Good for Kids - Site Visits
Data collection observation tool
(Version 7 – 16.07.14)

Childcare Service Details

Date of Visit:	
Service Name:	
Service ID:	
Contact Person on arrival:	
Nominated Supervisor:	
Room Leader:	
Phone Number:	
3-5 year olds Room Name:	
Address:	
Hours Open:	
Hours for Staff to attend:	9am-3pm
Notes:	

Families provide food for any meals or snacks when their child attends this service? (please circle one)

Yes, all meals and snacks / No, centre provides some or all meals and snacks

Observation Details

Research Assistant: Q1	
Date of Observation: Q2	
Start time *(24 hr time)*: Q3a	*Start time at service:*
Finish time *(24 hr time):* Q3b	*Finish time at service:*
Weather: Q4	*Q4a Temp:* *Q4b Did it rain? 1. Yes 2. No* *If Q4b = yes* *Q4c How long (hrs)? _____*

Scheduled Meeting time with Nominated Supervisor:
_____

Copies of policy documents taken or arranged to be sent:
_____

Copy of this weeks Program:_____

General Information & Observations (All Day)

General Information (cover information from pg1)

Q5a Child & Staff Count Q5b	_____child count _____staff count
Q6 Opening Time	
Q7 Closing Time	
Q8 Number of primary contact educators (whole service) *(present on this day)*	
Q9 Name of Room	
Q10 Name of Room Leader Q14	

Q11 Number of primary contact educators (3-5 room) *(present on this day)*	
Q12 Number of children (3-5 room) *(present on this day)*	

Q13: ***Notes:***

Water Availability

Q14. In this room, *throughout the day*, drinking water is *(please circle the appropriate answer)*:

1. Not freely available
2. Available during designated water breaks
3. Easily visible & available on request
4. Easily visible & available for self-serve

Q15. ***Notes:***

Q19

Meal Times

Drinks

Please circle all responses that apply

Q16 In this room, at meal and snack times

Q16a. Water is not freely available
Q16b. Children can access water bottles
Q16c. Children can request water
Q16d. Children can serve themselves water
Q16e. Children are provided with water

Q17. What drinks, if any, does the service provide during the day? *Please select all that apply*.

Q17a. Fruit juice or fruit drink (includes 100% fruit juice)
Q17b. Cordial
Q17c. Water

Q17d. Plain milk
Q17e. Flavoured milk
Q17f. Soft drink/flavoured mineral/soda water

Q18 **Milk served to children aged 2 and older is (please select one response):**

1. Whole / regular
2. Reduced fat
3. Skim / non-fat

Q19. ***Notes:***

.....

.....

.....

Food consumed

Q20. **Which of the following foods, if any, does the service provide during the day? This includes for snacks or at meals**. *Please circle all that apply*

Q20a. Confectionary, chocolate, ice cream
Q20b. Fruit or vegetable pieces, salad or platters
Q20c. Iced or creamed cakes, lamingtons or donuts, incl birthday cake
Q20d. Fruit bread (e.g raisin toast), English or fruit toast muffins or pikelets
Q20e. Potato chips, corn chips, cheese flavoured (snacks such as Twisties or Cheezels).
Q20f. Rice crackers or rice cakes
Q20g. French fries, hash browns, hot chips (cooked in oil)
Q20h. Pretzels, plain popcorn (no added fat),oven-baked chips (not oiled)
Q20i. Sweet biscuits with chocolate or cream filling
Q20j. Yoghurt
Q20k. None of the above
Q20l. NOT APPLICABLE (Service does NOT provide any food)

Q21meal# **Meal** *(please circle one)*					Q21time # **Time (24hr)**	Q21dur # **Duration (min)**	Q21who# **Who Provided** *(please circle one)*		Q21what# **What was Provided**	
Breakfast/MTea/Lunch/ATea/Dinner							Parent/Service		Fruit[1]/Vegetables[2]	
1	**2**	**3**	**4**	**5**			**1**	**2**	**1**	**2**
1	2	3	4	5			1	2	1	2
1	2	3	4	5			1	2	1	2
1	2	3	4	5			1	2	1	2
1	2	3	4	5			1	2	1	2
1	2	3	4	5			1	2	1	2

[1]Fruit*:* including fresh or canned in natural juice, BUT NOT INCLUDING juice or fruit drinks
[2] Vegetables: including fresh or canned, BUT NOT including chips, french fries or potatoes that your service cooks in oil

Q21b. Food and drink intake of three randomly selected children between core business hours

Instructions

4. Select three children for observation based on who has had the most recent Birthday or randomly choose three children at the beginning of the day if staff do not know most recent Birthdays
5. Circle method of selecting children below:

Q21bseme#	Most recent Birthday 1	Chosen at random 2

6. Record a distinguishing physical description/characteristic for each child so that you can easily identify them across the day.
7. Record **food and drink** intake at each meal occasion (morning snack, lunch and afternoon snack) in as much detail as possible using the data collection forms on the next **THREE** pages

Q21b. MORNING SNACK

Child 1. Physical description:				
Food and Drink Items	**Description/Detail**	**Amount Served**	**Amount +/-**	**Amount Remaining**
Child 2. Physical description:				
Child 3. Physical description:				

Q21b. LUNCH

Child 1. Physical description:				
Food and Drink Items	**Description/Detail**	**Amount Served**	**Amount +/-**	**Amount Remaining**
Child 2. Physical description:				

Child 3. Physical description:				

Q21b. AFTERNOON SNACK

Child 1. Physical description:				
Food and Drink Items	**Description/Detail**	**Amount Served**	**Amount +/-**	**Amount Remaining**
Child 2. Physical description:				

Child 3. Physical description:				

Q21b. NOTES

Record any notes, problems and comments as needed for each child's intake below

Child 1.
NOTES:

Child 2.
NOTES
Child 3.
NOTES:

Role modelling

Q22 Did staff members from this room consume sweets, salty snacks, or sugary drinks in front of the children? 1. Yes 2. No

Q22a If Yes, how many staff?
1. Some Staff
2. Most Staff
3. All Staff

Q22b If Yes, please provide more detail about what staff consumed.

Q23 Did staff members consume fruit in front of the children? 1. Yes 2. No

Q23a If Yes, how many staff?
1. Some Staff
2. Most Staff
3. All Staff

Q24 Did staff members consume vegetables in front of the children? 1. Yes 2. No

Q24a If Yes, how many staff?
1. Some Staff
2. Most Staff
3. All Staff

Q25 Did educators from this room sit AND eat lunch with the children? 1. Yes 2. No

Q25a If Yes, how many staff?

_____

Q25not. ***Notes***

Positive Food Comments

Q26 At meals and snack times did educators from the 3 - 5 room make positive comments about healthy foods? Note: e.g. "I like carrots too, they're crunchy".

1. Yes 2. No

Q26num **#**	**Staff Member**	Q26comm **Tally and record of comments**
1		
2		
3		
4		
5		

Q26note. ***Notes:***

Lunchbox Monitoring

Q27 In this room, do educators from this room monitor lunchboxes? 1. Yes 2. No

Q27a If Yes, do Educators provide feedback to families? 1. Yes 2. No

Q27b If Yes, Please give details of feedback provided

Q27c If No, does the service monitor lunchboxes 1. Yes 2.

(This includes other rooms or other educators) No

Q27d Did parents provide any foods that weren't compliant with your guidelines? 1. Yes 2. No

Q28. ***Notes:***

Physical Activity Observation

Structured Physical Activity Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAY

Session number:_____ (aligns with session number pg 15)

Session start time: _____ (aligns with Q29#st below)

Equipment: _____

Location of session/scan area Inside 1 Outside 2 *(please circle)*

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _: _ _	___	___	___	___	___	___
2	_ _: _ _	___	___	___	___	___	___
3	_ _: _ _	___	___	___	___	___	___

4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Structured Physical Activity Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAY

Session number:_____ (aligns with session number pg 15)

Session start time: _____ (aligns with Q29#st below)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _: _ _	___	___	___	___	___	___
2	_ _: _ _	___	___	___	___	___	___
3	_ _: _ _	___	___	___	___	___	___
4	_ _: _ _	___	___	___	___	___	___
5	_ _: _ _	___	___	___	___	___	___
6	_ _: _ _	___	___	___	___	___	___
7	_ _: _ _	___	___	___	___	___	___
8	_ _: _ _	___	___	___	___	___	___
9	_ _: _ _	___	___	___	___	___	___
10	_ _: _ _	___	___	___	___	___	___
11	_ _: _ _	___	___	___	___	___	___
12	_ _: _ _	___	___	___	___	___	___
13	_ _: _ _	___	___	___	___	___	___
14	_ _: _ _	___	___	___	___	___	___

Structured Physical Activity Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAY

Session number:_____ (aligns with session number pg 15)

Session start time: _____ (aligns with Q29#st below)

Equipment: _____

Location of session/scan area Inside 1 Outside 2

(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Structured Physical Activity Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYs

Session number:_____ (aligns with session number pg 15)

Session start time: _____ (aligns with Q29#st below)

Equipment: _____

Location of session/scan area Inside 1 Outside 2 *(please circle)*

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___

13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Structured Physical Activity (including FMS)

Q29 During **educator-led, structured activity…**

Session	Q29#st Start Time	Q29#dura Q29#durb Duration (min)	Q29#soplay Activity scan record complete?	Q29#desc Description	Are FMS skills developed? What type of FMS? Proportion of children involved?	Q29#pro Proportion of Children active
1		_____ Total Duration _____ Av Duration individual children are active	1. Yes 2. No		Q29fms#a 1. Yes 2. No Q29fms#b Type?_____ Q29fms#c Proportion Involved in FMS _____%	%
Q291not ***Notes:***						
2		_____ Total Duration _____ Av Duration individual children are active	1. Yes 2. No		Q29fms#a 1. Yes 2. No Q29fms#b Type?_____ Q29fms#c Proportion Involved in FMS _____%	%
Q292not ***Notes:***						

3		_____ Total Duration _____ Av Duration individual children are active	1. Yes 2. No		Q29fms#a 1. Yes 2. No Q29fms#b Type?_____ Q29fms#c Proportion Involved in FMS _____%	%
Q293not ***Notes:***						
4		_____ Total Duration _____ Av Duration individual children are active	1. Yes 2. No		Q29fms#a 1. Yes 2. No Q29fms#b Type?_____ Q29fms#c Proportion Involved in FMS _____%	%
Q294not ***Notes:***						
Q29ava **AVERAGE** proportion of children active during **structured, educator led physical activity**?				_____% Q29pera		1. All 2. 3/4 or more 3. 1/2 or more 4. 1/4 or more 5. Less than ¼ Q29a

Q29avb **AVERAGE** proportion of children active during **structured, educator-led physical activity to develop FMS?**	_____% Q29perb	1. All 2. 3/4 or more 3. 1/2 or more 4. 1/4 or more 5. Less than ¼ Q29b

Q30 Did educators in the 3 - 5 room **provide structured, educator-led PA**? 1. Yes 2. No

Q31 How much time do 3 - 5yr old children spend participating in **structured, educator-led physical activity**? _____ min

Q32 Did educators in this room lead **structured activity to develop FMS**? 1. Yes 2. N

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___

13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___

10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___

7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___

4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)
- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _: _ _	___	___	___	___	___	___
2	_ _: _ _	___	___	___	___	___	___
3	_ _: _ _	___	___	___	___	___	___
4	_ _: _ _	___	___	___	___	___	___
5	_ _: _ _	___	___	___	___	___	___
6	_ _: _ _	___	___	___	___	___	___
7	_ _: _ _	___	___	___	___	___	___
8	_ _: _ _	___	___	___	___	___	___
9	_ _: _ _	___	___	___	___	___	___
10	_ _: _ _	___	___	___	___	___	___
11	_ _: _ _	___	___	___	___	___	___
12	_ _: _ _	___	___	___	___	___	___
13	_ _: _ _	___	___	___	___	___	___
14	_ _: _ _	___	___	___	___	___	___

Free Play Sessions: Activity Scan Record (SOPLAY)

Q29SOPLAYf

Session number:_____(aligns with session number pg 23)

Session start time: _____(aligns with Q33#st)

Equipment: _____

Location of session/scan area Inside 1 Outside 2
(please circle)

- Each scan should be conducted over 10 minute intervals (or until session finish if entire session < 10 minutes)

- **In the following table, record:**
  - Start time for each scan
  - Number of girls and boys who are: Sedentary (S); Walking/slow easy movements (W); or Vigorously active (V) during each 10 minute scan

Scan number	Scan start time	Girls			Boys		
		S	W	V	S	W	V
1	_ _:_ _	___	___	___	___	___	___
2	_ _:_ _	___	___	___	___	___	___
3	_ _:_ _	___	___	___	___	___	___
4	_ _:_ _	___	___	___	___	___	___
5	_ _:_ _	___	___	___	___	___	___
6	_ _:_ _	___	___	___	___	___	___
7	_ _:_ _	___	___	___	___	___	___
8	_ _:_ _	___	___	___	___	___	___
9	_ _:_ _	___	___	___	___	___	___
10	_ _:_ _	___	___	___	___	___	___
11	_ _:_ _	___	___	___	___	___	___
12	_ _:_ _	___	___	___	___	___	___
13	_ _:_ _	___	___	___	___	___	___
14	_ _:_ _	___	___	___	___	___	___

Physical Activity During Free Play

Free Play Session	Q33#st Start Time (24hrs)	Q33#dur Finish Time (24hrs)	Q33#soplay Activity scan record complete?	Q33#act Q33#actd Are children able to be active?	Q33#desc Description	If children are able to be active…		
						Q33#part Did educators participate alongside	Q33#ext Did educators provide verbal prompts to encourage /	Q33#pro Proportion of Children Active
1			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q331not ***Notes:***								
2			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q332not ***Notes:***								
3			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q333not ***Notes:***								

4			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q334not ***Notes:***								
5			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q335not ***Notes:***								
6			1. Yes 2. No	1. Yes 2. No Duration children are ***able*** to be active (min)_____		1. Yes 2. No # of staff _____	1. Yes 2. No # of staff _____	Avg duration children are ***actually*** active_____
Q336not ***Notes:***								
Q33av **AVERAGE** proportion of children active during **free play time**						_____% Active Q33perc		1. All 2. 3/4 or more 3. 1/2 or more

Q34 Typically, how much of the core operating time (9-3pm), do 3 to 5 year old children in your room have for **child-initiated free play**?
This includes both indoor and outdoor free play time. (See Table pgs 23-24)

Q35 For how much of the child-initiated, free play time can children be physically active?
(See Table pgs 23-24)

Q36 Did educators from this room participate alongside children in active play?

Q37 During free play time where children can be active, how many educators in this room participated alongside children in active play?

1. Some Staff
2. Most Staff
3. All Staff
4. No Staff

Q39 During child-initiated free active play, *did educators in this room provide* verbal prompts to encourage or extend children's activity? e.g. by saying things like 'run hard', 'good throw', or 'can you do it again'

1. Yes 2. No

Q40 During free play time, where children could be active, *how many educators* in this room provided prompts to encourage or extend children's activity?

1. Some Staff
2. Most Staff
3. All Staff
4. No Staff

Q41. ***Notes:***

Q42 In this room, were television, videos and DVDs, including educational programs and videos, viewed by children aged three to five. 1. Yes 2. No

Q43 If Yes, for how long? _____min

Q43a In this room, were computers or tablets used by children aged three- to five?	1. Yes 2. No
Q43b If yes, by how many children?	_____children
Q43c If yes, for approximately how long per child?	_____min

Q44 For which of the following purposes do children aged 3 to 5 years at your service spend time watching television, videos or DVDs? Please select all that apply.

Q44a To gain knowledge/share information about a specific learning area

Q44b For child amusement, enjoyment or entertainment

Q44bi **If Yes**, would children usually be?

1 Sitting still
2 Standing with limited movement
3 Moving or being active

Q44c To facilitate exploration of activity, dance or movement

Q44d For "down time" or "quiet time"

Q44di **If Yes**, would children usually be?

1 Sitting still
2 Standing with limited movement
3 Moving or being active

Q44e For another purpose

Please specifiy:_____

Healthy Eating Learning Experiences

Planned learning experiences about healthy eating could include structured learning experiences like:
- Cooking or tastings,
- food experiments, or food related craft
- planned discussion or stories about healthy eating, and
- Food themed action songs or rhymes

Q46a Did educators in this room provide planned learning experiences about HE? 1. Yes 2. No

Opportunistic learning experiences could include educators making links to healthy eating during story times or mealtimes.

Q46b Did educators in this room provide opportunistic learning experiences about HE? 1. Yes 2. No

Notes:

Q47 **General Comments/Notes:** *e.g. did you notice any changes in practices during your visit? This is somewhere for you to include anything that was made clear to you was not normal practice, but changed because of your presence. E.g. if someone makes a comment providing easy access to water for the children today, but not normally on other days*

Policies & Other Documents			
	1. Received	2. Don't have	3. Will Send
Q48a Written nutrition policy			
Q48b Written physical activity policy			
Q48c Written policy restricting TV, DVDs & videos			
Q48d Written policy that promotes HE and PA practices and programs that are sensitive to the needs of minority or disadvantaged groups			
Q49 Written nutritional guidelines for families regarding foods and drinks brought from home for meals and snacks			
Q50 A Quality Improvement Program (QIP) with *Healthy Eating objectives*			
Q51 A Quality Improvement Program (QIP) with *Physical Activity objectives*			
Q52 Report on the achievement of HE & PA objectives, as stated in policies, QIPs, guidelines, programs & curricula			

Q53 Service has copy of Get Up & Grow	1. Yes 2. No
Q54. Service has provided copy of this weeks program	1. Yes 2. No
QMM Service has copy of Munch & Move	1. Yes 2. No

Q55 ***Notes:***

Q56 Based only on your observations today, do you believe that this service received the intensive *Good for Kids* intervention or did not receive any support from *Good for Kids* in the past 12 months (control group)? ***(Please circle)***	1. Intervention group 2. Control group

MEDLINE search strategy

1. exp obesity/
2. Weight Gain/
3. exp Weight Loss/
4. obes*.mp.
5. (weight gain or weight loss).mp.
6. (overweight or over weight or overeat* or over eat*).mp.
7. weight change*.mp.
8. ((bmi or body mass index) adj2 (gain or loss or change)).mp.
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. exp Exercise/
11. physical inactivity.mp.
12. physical activity.mp.
13. exp Motor Activity/
14. (physical education and training).mp.
15. exp “Physical Education and Training”/
16. Physical Fitness/
17. sedentary.mp.
18. exp Life Style/
19. exp Leisure Activities/
20. exp Sports/
21. Dancing/
22. (exercise* adj2 aerobic*).mp.
23. sport*.mp.
24. ((life style or life style) adj5 activ*).mp.
25. (dance* or dancing).mp.
26. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
27. exp Diet/
28. nutrition*.mp.
29. (health* adj2 eat*).mp.
30. Child Nutrition Sciences/
31. Fruit/ or fruit*.mp.
32. Vegetables/ or vegetable*.mp.
33. canteen*.mp.
34. Food Services/
35. menu.mp.
36. (calorie or calories or kilojoule*).mp.
37. Energy Intake/
38. energy density.mp.
39. Eating/
40. Feeding Behavior/ or feeding behaviour.mp.
41. dietary intake.mp.
42. Food Habits/
43. Food/

44. Carbonated Beverages/ or soft drink*.mp.
45. soda.mp.
46. sweetened drink*.mp.
47. Dietary Fats/
48. confectionary.mp.
49. (school adj2 (lunch* or meal*)).mp.
50. Menu Planning/
51. feeding program*.mp.
52. food program*.mp.
53. (nutrition* adj2 program*).mp.
54. cafeteria*.mp.
55. Nutritional Status/
56. 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48
or 49 or 50 or 51 or 52 or 53 or 54 or 55
57. 9 or 26 or 56
58. Child, Preschool/
59. (pre-school* or preschool*).mp.
60. Child Day Care Centers/
61. (childcare* or child care*).mp.
62. (daycare* or day care*).mp.
63. early child*.mp.
64. (nursery or nurseries).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word,
protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
65. Kinder*.mp.
66. 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65
67. randomized controlled trial.pt.
68. controlled clinical trial.pt.
69. clinical trials as topic.sh.
70. trial*.tw.
71. double blind.tw.
72. single blind.tw.
73. experiment*.tw.
74. (pretest or pre test).tw.
75. (posttest or post test).tw.
76. (pre post or prepost).tw.
77. before after.tw.
78. qua?i randomi?ed.tw.
79. stepped wedge.tw.
80. (non randomi?ed or nonrandomi?ed).tw.
81. interrupted time series.tw.
82. multiple baseline.tw.
83. regression discontinuity.tw.

84. comprehensive cohort.tw.
85. random*.ab.
86. 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85
87. implement*.mp.
88. dissemin*.mp.
89. adopt*.mp.
90. practice*.mp.
91. organi?ational change*.mp.
92. diffus*.mp.
93. (system* adj2 change*).tw.
94. quality improvement*.mp.
95. transform*.mp.
96. translat*.mp.
97. transfer*.mp.
98. uptake*.mp.
99. sustainab*.mp.
100. institutionali*.mp.
101. routin*.mp.
102. maintenance.mp.
103. capacity.mp.
104. incorporat*.mp.
105. adher*.mp.
106. ((polic* or practice* or program* or innovation*) adj5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*)).mp.
107. integrat*.mp.
108. scal* up.mp.
109. 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 or 104 or 105 or 106 or
107 or 108
110. 57 and 66 and 86 and 10

CENTRAL search strategy

1. MeSH descriptor: [Obesity] explode all trees
2. MeSH descriptor: [Weight Gain] this term only
3. MeSH descriptor: [Weight Loss] explode all trees
4. obes*
5. weight gain or weight loss
6. overweight or “over weight” or overeat* or “over eat*”
7. “weight change*”
8. ((bmi or body mass index) near/2 (gain or loss or change))
9. {or #1-#8}

10. MeSH descriptor: [Exercise] explode all trees
11. “physical inactivity”
12. “physical activity”
13. MeSH descriptor: [Motor Activity] explode all trees
14. “physical education and training”
15. MeSH descriptor: [Physical Education and Training] explode all trees
16. MeSH descriptor: [Physical Fitness] this term only
17. sedentary
18. MeSH descriptor: [Life Style] explode all trees
19. MeSH descriptor: [Leisure Activities] explode all trees
20. MeSH descriptor: [Sports] explode all trees
21. MeSH descriptor: [Dancing] this term only
22. exercis* near/2 aerobic*
23. sport*
24. (life style or lifestyle) near/5 activ*
25. dance* or dancing
26. {or #10-#25}
27. MeSH descriptor: [Diet] explode all trees
28. nutrition*
29. health* near/2 eat*
30. MeSH descriptor: [Child Nutrition Sciences] this term only
31. fruit*
32. MeSH descriptor: [Fruit] this term only
33. vegetable*
34. MeSH descriptor: [Vegetables] this term only
35. canteen*
36. MeSH descriptor: [Food Services] this term only
37. menu
38. calorie or calories or kilojoule*
39. MeSH descriptor: [Energy Intake] this term only
40. “energy density”
41. MeSH descriptor: [Eating] this term only
42. MeSH descriptor: [Feeding Behavior] this term only
43. “feeding behaviour”
44. “dietary intake”
45. MeSH descriptor: [Food Habits] this term only
46. MeSH descriptor: [Food] this term only
47. MeSH descriptor: [Carbonated Beverages] this term only
48. “soft drink*”
49. soda
50. “sweetened drink*”
51. MeSH descriptor: [Dietary Fats] this term only
52. confectionary
53. school near/2 (lunch* or meal*)
54. MeSH descriptor: [Menu Planning] this term only

55. “feeding program*”
56. “food program*”
57. nutrition* near/2 program*
58. cafeteria*
59. MeSH descriptor: [Nutritional Status] this term only
60. {or #27-#59} 48804
61. MeSH descriptor: [Child, Preschool] this term only
62. pre-school* or preschool*
63. MeSH descriptor: [Child Day Care Centers] this term only
64. childcare* or “child care*”
65. daycare* or “day care*”
66. “early child*”
67. nursery or nurseries
68. Kinder*
69. {or #61-#68}
70. randomized controlled trial.pt
71. controlled clinical trial.pt
72. clinical trials as topic.sh
73. trial*:ti,ab
74. double blind:ti,ab
75. single blind:ti,ab
76. experiment*:ti,ab
77. pretest or “pre test”:ti,ab
78. posttest or “post test”:ti,ab
79. pre post or “prepost”:ti,ab
80. “before after”:ti,ab
81. “qua?i randomi?ed”:ti,ab
82. “stepped wedge”:ti,ab
83. “non randomi?ed” or nonrandomi?ed:ti,ab
84. “interrupted time series”:ti,ab
85. “multiple baseline”:ti,ab
86. “regression discontinuity”:ti,ab
87. “comprehensive cohort”:ti,ab
88. random*:ab
89. {or #70-#88}
90. implement*
91. dissemin*
92. adopt*
93. practice*
94. “organi?ational change*”
95. diffus*
96. system* near/2 change*
97. “quality improvement*”
98. transform*
99. translat*

100. transfer*
101. uptake*
102. sustainab*
103. institutionali*
104. routin*
105. maintenance
106. capacity
107. incorporat*
108. adher*
109. (polic* or practice* or program* or innovation*) near/5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*) 10599
110. integrat*
111. "scal* up"
112. {or #90-#111}
113. #9 or #26 or #60
114. #69 and #89 and #112 and #113

MEDLINE In Process search strategy
1. obes*.mp.
2. (weight gain or weight loss).mp.
3. (overweight or over weight or overeat* or over eat*).mp.
4. weight change*.mp.
5. ((bmi or body mass index) adj2 (gain or loss or change)).mp.
6. 1 or 2 or 3 or 4 or 5
7. exercis*.mp.
8. physical inactivity.mp.
9. physical activity.mp.
10. motor activity.mp.
11. (physical education and training).mp.
12. Physical Fitness.mp.
13. sedentary.mp.
14. Leisure Activit*.mp.
15. sport*.mp.
16. ((life style or lifestyle) adj5 activ*).mp.
17. (dance* or dancing).mp.
18. 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17
19. diet.mp.
20. nutrition*.mp.
21. (health* adj2 eat*).mp.
22. fruit*.mp.
23. vegetable*.mp.
24. canteen*.mp.

25. Food Service*.mp.
26. menu.mp.
27. (calorie or calories or kilojoule*).mp.
28. Energy Intake.mp.
29. energy density.mp.
30. Eating.mp.
31. feeding behavio?r*.mp.
32. dietary intake.mp.
33. Food.mp.
34. ((carbonated or sweetened or soft) adj (drink* or beverage*)).mp.
35. soda.mp.
36. Dietary Fat*.mp.
37. confectionary.mp.
38. (school adj2 (lunch* or meal*)).mp.
39. feeding program*.mp.
40. food program*.mp.
41. (nutrition* adj2 program*).mp.
42. cafeteria*.mp.
43. 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40
or 41 or 42
44. (pre-school* or preschool*).mp.
45. (childcare* or child care*).mp.
46. (daycare* or day care*).mp.
47. early child*.mp.
48. (nursery or nurseries).mp.
49. Kinder*.mp.
50. 44 or 45 or 46 or 47 or 48 or 49
51. randomized controlled trial.pt.
52. controlled clinical trial.pt.
53. trial*.tw.
54. double blind.tw.
55. single blind.tw.
56. experiment*.tw.
57. (pretest or pre test).tw.
58. (posttest or post test).tw.
59. (pre post or prepost).tw.
60. before after.tw.
61. qua?i randomi?ed.tw.
62. stepped wedge.tw.
63. (non randomi?ed or nonrandomi?ed).tw.
64. interrupted time series.tw.
65. multiple baseline.tw.
66. regression discontinuity.tw.
67. comprehensive cohort.tw.

68. random*.tw.
69. 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68
70. implement*.mp.
71. dissemin*.mp.
72. adopt*.mp.
73. practice*.mp.
74. organi?ational change*.mp.
75. diffus*.mp.
76. (system* adj2 change*).tw.
77. quality improvement*.mp.
78. transform*.mp.
79. translat*.mp.
80. transfer*.mp.
81. uptake*.mp.
82. sustainab*.mp.
83. institutionali*.mp.
84. routin*.mp.
85. maintenance.mp.
86. capacity.mp.
87. incorporat*.mp.
88. adher*.mp.
89. ((polic* or practice* or program* or innovation*) adj5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*)).mp.
90. integrat*.mp.
91. scal* up.mp.
92. 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91
93. 6 or 18 or 43
94. 50 and 69 and 92 and 93

EMBASE search strategy

1. exp obesity/
2. weight gain/
3. Weight Loss.mp. or exp weight reduction/
4. obes*.mp.
5. (weight gain or weight loss).mp.
6. (overweight or over weight or overeat* or over eat*).mp.
7. weight change*.mp.
8. ((bmi or body mass index) adj2 (gain or loss or change)).mp.
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. exp exercise/

11. physical inactivity.mp. or physical inactivity/
12. exp physical activity/
13. exp motor activity/
14. “physical education and training”.mp.
15. physical education/
16. physical fitness.mp. or fitness/
17. sedentary.mp.
18. lifestyle/
19. Leisure Activities.mp. or leisure/
20. exp sport/
21. dancing/
22. (exercise* adj2 aerobic*).mp.
23. sport*.mp.
24. ((life style or lifestyle) adj5 activ*).mp.
25. (dance* or dancing).mp.
26. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
27. exp diet/
28. nutrition*.mp. or nutrition/
29. (health* adj2 eat*).mp.
30. Child Nutrition Sciences.mp. or nutritional science/
31. fruit*.mp. or fruit/
32. vegetable*.mp. or vegetable/
33. canteen*.mp.
34. Food Services.mp. or catering service/
35. menu.mp.
36. (calorie or calories or kilojoule*).mp.
37. Energy Intake.mp. or caloric intake/
38. energy density.mp.
39. eating/
40. feeding behaviour.mp. or feeding behavior/
41. dietary intake.mp. or dietary intake/
42. Food Habits.mp. or feeding behavior/
43. food/
44. carbonated beverage/ or soft drink*.mp. or soft drink/
45. soda.mp.
46. sweetened drink*.mp.
47. Dietary Fats.mp. or fat intake/
48. confectionary.mp.
49. (school adj2 (lunch* or meal*)).mp.
50. Menu Planning.mp.
51. feeding program*.mp.
52. food program*.mp.
53. (nutrition* adj2 program*).mp.
54. cafeteria*.mp.

55. nutritional status/
56. 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48
or 49 or 50 or 51 or 52 or 53 or 54 or 55
57. 9 or 26 or 56
58. Child, Preschool/
59. (pre-school* or preschool*).mp.
60. day care/
61. child care/ or childcare*.mp.
62. (daycare* or day care*).mp.
63. early child*.mp.
64. nurseries.mp. or nursery/
65. Kinder*.mp.
66. 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65
67. randomized controlled trial/
68. controlled clinical trial/
69. “clinical trial (topic)”/
70. trial*.tw.
71. double blind.tw.
72. single blind.tw.
73. experiment*.tw.
74. (pretest or pre test).tw.
75. (posttest or post test).tw.
76. (pre post or prepost).tw.
77. before after.tw.
78. qua?i randomi?ed.tw.
79. stepped wedge.tw.
80. (non randomi?ed or nonrandomi?ed).tw.
81. interrupted time series.tw.
82. multiple baseline.tw.
83. regression discontinuity.tw.
84. comprehensive cohort.tw.
85. random*.ab.
86. 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85
87. implement*.mp.
88. dissemin*.mp.
89. adopt*.mp.
90. organi?ational change*.mp.
91. diffus*.mp.
92. (system* adj2 change*).tw.
93. quality improvement*.mp.
94. practice*.mp.
95. transform*.mp.
96. translat*.mp.

97. transfer*.mp.
98. uptake*.mp.
99. sustainab*.mp.
100. institutionali*.mp.
101. routin*.mp.
102. maintenance.mp.
103. capacity.mp.
104. incorporat*.mp.
105. adher*.mp.
106. ((polic* or practice* or program* or innovation*) adj5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*)).mp.
107. integrat*.mp.
108. scal* up.mp.
109. 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 or 104 or 105 or 106 or
107 or 108
110. 57 and 66 and 86 and 109

PsychINFO search strategy
1. Obesity/
2. Weight Gain/
3. Weight Loss/
4. obes*.mp.
5. (weight gain or weight loss).mp.
6. (overweight or over weight or overeat* or over eat*).mp.
7. weight change*.mp.
8. ((bmi or body mass index) adj2 (gain or loss or change)).mp.
9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
10. exp Exercise/
11. physical inactivity.mp.
12. physical activity.mp. or Physical Activity/
13. Motor Activity.mp.
14. (physical education and training).mp.
15. Physical Education/
16. Physical Fitness/
17. sedentary.mp.
18. exp Lifestyle/
19. leisure time/ or recreation/
20. exp Sports/
21. Dance/
22. (exercise* adj2 aerobic*).mp.
23. sport*.mp.

24. ((life style or lifestyle) adj5 activ*).mp.
25. (dance* or dancing).mp.
26. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
27. Diets/
28. exp Nutrition/ or Nutrition*.mp.
29. (health* adj2 eat*).mp.
30. Child Nutrition Sciences.mp.
31. fruit*.mp.
32. vegetable*.mp.
33. canteen*.mp.
34. Food Services.mp.
35. menu.mp.
36. (calorie or calories or kilojoule*).mp.
37. Food Intake/ or Energy Intake.mp.
38. energy density.mp.
39. Eating.mp.
40. Eating Behavior/
41. feeding behavio?r.mp.
42. dietary intake.mp.
43. Food/
44. ((carbonated or sweetened or soft) adj (drink* or beverage*)).mp.
45. soda.mp.
46. Dietary Fat*.mp.
47. confectionary.mp.
48. (school adj2 (lunch* or meal*)).mp.
49. feeding program*.mp.
50. food program*.mp.
51. (nutrition* adj2 program*).mp.
52. cafeteria*.mp.
53. 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48
or 49 or 50 or 51 or 52
54. 9 or 26 or 53
55. preschool students/ or nursery school students/
56. (pre-school* or preschool*).mp.
57. Day Care Centers/ or Child Day Care/
58. (childcare* or child care*).mp.
59. (daycare* or day care*).mp.
60. early child*.mp.
61. (nursery or nurseries).mp.
62. Kindergarten Students/ or Kinder*.mp.
63. 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62
64. randomi?ed controlled trial*.mp.
65. Clinical Trials/

66. trial*.tw.
67. double blind.tw.
68. single blind.tw.
69. experiment*.tw.
70. (pretest or pre test).tw.
71. (posttest or post test).tw.
72. (pre post or prepost).tw.
73. before after.tw.
74. qua?i randomi?ed.tw.
75. stepped wedge.tw.
76. (non randomi?ed or nonrandomi?ed).tw.
77. interrupted time series.tw.
78. multiple baseline.tw.
79. regression discontinuity.tw.
80. comprehensive cohort.tw.
81. random*.ab.
82. 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81
83. implement*.mp.
84. dissemin*.mp.
85. adopt*.mp.
86. practice*.mp.
87. organi?ational change*.mp.
88. diffus*.mp.
89. (system* adj2 change*).tw.
90. quality improvement*.mp.
91. transform*.mp.
92. translat*.mp.
93. transfer*.mp.
94. uptake*.mp.
95. sustainab*.mp.
96. institutionali*.mp.
97. routin*.mp.
98. maintenance.mp.
99. capacity.mp.
100. incorporat*.mp.
101. adher*.mp.
102. ((polic* or practice* or program* or innovation*) adj5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*)).mp.
103. integrat*.mp.
104. scal* up.mp.

105. 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103
or 104
106. 54 and 63 and 82 and 105

ERIC search strategy
(lobes* OR "weight gain" OR "weight loss" OR overweight OR "over weight" OR overeat* OR over eat* OR "weight change*" OR
((bmiOR bodymass index) AND(gainOR lossOR change))OR Exercise*OR "physical inactivity"OR "physical activity"OR "Motor
Activity" OR "physical education" OR "Physical Fitness" OR sedentary OR "leisure activit*" OR sport* OR dance* OR ((life style OR
lifestyle) AND activ*) OR Diet OR nutrition* OR (health* AND eat*) OR "Child Nutrition*" OR fruit* OR vegetable* OR canteen*
OR menu OR calorie OR calories OR kilojoule* OR "Energy Intake" OR "energy density" OR Eating OR "feeding behaviour" OR
"Feeding Behavior" OR "dietary intake" OR food OR ((carbonated OR sweetened OR soft) AND (drink* OR beverage*)) OR soda
OR "Dietary Fat*" OR confectionary OR (school AND (lunch* OR meal*)) OR "feeding program*" OR cafeteria*)
AND (pre-school* or preschool* or childcare* or "child care*" or daycare* or "day care*" or "early child*" or nursery or nurseries or
Kinder*)
AND (Random* or trial* or "double blind" or "single blind" or experiment* or pretest or "pre test" or posttest or "post test" or "pre
post" or prepost or "before after" or "stepped wedge" or nonrandomi?ed or "interrupted time series" or "multiple baseline" or "regression
discontinuity" or "comprehensive cohort")
AND (Implement* or dissemin* or adopt* or practice* or "organi?ational change*" or diffuse* or (system* and change*) or "quality
improvement*" or transform* or translat* or transfer* or uptake* or sustainab* or institutionali* or routin* or maintenance or capacity
or incorporate* or adher* or ((polic* or practice* or program* or innovation*) and (performance or feedback or prompt* or reminder*
or incentive* or penalt* or communicat* or social market* or professional development or network* or leadership or opinion leader*
or consensus process* or change manage* or train* or audit*)) or integrat* or "scal* up")

CINAHL search strategy
S111. S58 AND S68 AND S87 AND S110
S110. S88 OR S89 OR S90 OR S91 OR S92 OR S93 OR S94 OR S95 OR S96 OR S97 OR S98 OR S99 OR S100 OR S101 OR
S102 OR S103 OR S104 OR S105 OR S106 OR S107 OR S108 OR S109
S109. incorporat*

S108. scal* up
S107. integrat*
S106. ((polic* or practice* or program* or innovation*) n5 (performance or feedback or prompt* or reminder* or incentive* or penalt*
or communicat* or social market* or professional development or network* or leadership or opinion leader* or consensus process* or
change manage* or train* or audit*))
S105. adher*
S104. capacity
S103. maintenance
S102. routin*
S101. institutionali*
S100. sustainab*
S99. uptake*
S98. transfer*
S97. translat*
S96. transform*
S95. quality improvement*
S94. system* n2 change*
S93. diffus*
S92. organi?ational change*
S91. practice*
S90. adopt*
S89. dissemin*
S88. implement*
S87. S69 OR S70 OR S71 OR S72 OR S73 OR S74 OR S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR S81 OR S82 OR S83
OR S84 OR S85 OR S86
S86. AB random*
S85. TI comprehensive cohort OR AB comprehensive cohort
S84. TI regression discontinuity OR AB regression discontinuity
S83. TI multiple baseline OR AB multiple baseline
S82. TI interrupted time series OR AB interrupted time series
S81. TI (non randomi?ed or nonrandomi?ed) OR AB (non randomi?ed or nonrandomi?ed)
S80. TI stepped wedge OR AB stepped wedge
S79. TI qua?i randomi?ed OR AB qua?i randomi?ed
S78. TI before after OR AB before after
S77. TI (pre post or prepost) OR AB (pre post or prepost)
S76. TI (posttest or post test) OR AB (posttest or post test)
S75. TI (pretest or pre test) OR AB (pretest or pre test)
S74. (MH “Experimental Studies”) OR “experiment*”
S73. (MH “Single-Blind Studies”) OR “single blind”
S72. (MH “Double-Blind Studies”) OR “double blind”
S71. TI trial* OR AB trial*

S70. (MH “Clinical Trials”)
S69. (MH “Randomized Controlled Trials”)
S68. S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67
S67. Kinder*
S66. nursery or nurseries
S65. (MH “Schools, Nursery”)
S64. “early child*”
S63. daycare* or day care*
S62. childcare* or child care*
S61. (MH “Child Day Care”) OR (MH “Child Care Providers”) OR (MH “Child Care (Saba CCC)”) OR (MH “Child Care”)
S60. pre-school* or preschool*
S59. (MH “Child, Preschool”)
S58. S9 OR S26 OR S57
S57. S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41
OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56
S56. (MH “Nutritional Status”)
S55. cafeteria*
S54. (nutrition* n2 program*)
S53. “food program*”
S52. “feeding program*”
S51. school n2 (lunch* or meal*)
S50. “confectionary” OR (MH “Candy”)
S49. (MH “Dietary Fats”)
S48. “sweetened drink*”
S47. soda
S46. (MH “Carbonated Beverages”) OR “soft drink*”
S45. (MH “Food”)
S44. (MH “Food Habits”) OR “Food Habits”
S43. dietary intake
S42. (MH “Eating”) OR (MH “Eating Behavior”)
S41. “feeding behavio?r”
S40. (MH “Energy Density”) OR “Energy Density”
S39. (MH “Energy Intake”) OR (MH “Food Intake”)
S38. calorie or calories or kilojoule*
S37. (MH “Menu Planning”) OR “menu”
S36. (MH “Food Services”)
S35. “canteen*”
S34. fruit*
S33. (MH “Vegetables”) OR “vegetable*”
S32. (MH “Fruit+”)
S31. (MH “Child Nutrition”)
S30. health* n2 eat*

S29. (MH “Nutrition”)
S28. “nutrition*”
S27. (MH “Diet+”)
S26. S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24
OR S25
S25. dance* or dancing
S24. (life style or lifestyle) n5 activ*
S23. sport*
S22. exercis* n2 aerobic*
S21. (MH “Dancing+”)
S20. (MH “Sports+”)
S19. (MH “Leisure Activities+”)
S18. (MH “Life Style+”)
S17. (MH “Life Style, Sedentary”) OR “sedentary”
S16. (MH “Physical Fitness”)
S15. (MH “Physical Education and Training+”)
S14. physical education and training
S13. (MH “Motor Activity+”)
S12. (MH “Physical Activity”) OR “physical activity”
S11. physical inactivity
S10. (MH “Exercise+”)
S9. S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8
S8. obes*
S7. ((bmi or body mass index) n2 (gain or loss or change))
S6. weight change*
S5. overweight or over weight or overeat* or over eat*
S4. weight gain or weight loss
S3. (MH “Weight Loss+”)
S2. (MH “Weight Gain”)
S1. (MH “Obesity+”)

SCOPUS search strategy

TITLE-ABS-KEY (obes* OR “weight gain” OR “weight loss”OR overweightOR “over weight”OR overeat*OR over eat*OR “weight
change*” OR ((bmi OR body mass INDEX) AND (gain OR loss OR change)) OR exercise* OR “physical inactivity” OR “physical
activity” OR “Motor Activity” OR “physical education” OR “Physical Fitness” OR sedentary OR “leisure activit*” OR sport* OR
danc* OR ((life style OR lifestyle) AND activ*) OR diet OR nutrition* OR (health* AND eat*) OR “Child Nutrition*” OR fruit*
OR vegetable*OR canteen* ORmenu OR calorie OR caloriesOR kilojoule* OR “Energy Intake” OR “energy density” OR eating OR
“feeding behaviour” OR “Feeding Behavior” OR “dietary intake” OR food OR ((carbonated OR sweetened OR soft) AND (drink*

OR beverage*)) OR soda OR “Dietary Fat*” OR confectionary OR (school AND (lunch* OR meal*)) OR “feeding program*”
OR cafeteria*)
AND TITLE-ABS-KEY (pre-school* OR preschool* OR childcare* OR “child care*” OR daycare* OR “day care*” OR “early child*”
OR nursery OR nurseries OR kinder*)
AND TITLE-ABS-KEY (random* OR trial* OR “double blind” OR “single blind” OR experiment* OR pretest OR “pre test” OR
posttest OR “post test” OR “pre post” OR prepost OR “before after” OR “stepped wedge” OR nonrandomi?ed OR “interrupted time
series” OR “multiple baseline” OR “regression discontinuity” OR “comprehensive cohort”)
ANDTITLE-ABS-KEY (implement*OR dissemin* OR adopt* OR practice*OR “organi?ational change*”OR diffuse*OR (system*
AND change*) OR “quality improvement*”OR transform* OR translat* OR transfer* OR uptake* OR sustainab* OR institutionali*
OR routin* OR maintenance OR capacity OR incorporate* OR adher* OR ((polic* OR practice* OR program* OR innovation*)
AND (performance OR feedback OR prompt* OR reminder* OR incentive* OR penalt* OR communicat* OR social market* OR
professional development OR network* OR leadership OR opinion leader* OR consensus process* OR change manage* OR train*
OR audit*)) OR integrat* OR “scal* up”)

Alkon et al 2014[46]

Methods	**Study design:** Cluster randomised controlled trial **Intervention duration:** 7 months **Length of follow-up from baseline:** 7 months **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service (child behaviour and weight status were assessed at the level of the individual)
Participants	**Service type:** Childcare centres **Region:** California, Connecticut and North Carolina, US **Demographic/socioeconomic characteristics:** Children between the ages of 3 and 5 years of age from racial/ethnically diverse backgrounds and primarily of low income families **Inclusion/exclusion criteria:** *Inclusion criteria:* English speaking service manager, onsite kitchen, racial/ethnic diversity among the children, participation by at least 60% of families, and a population of children in care primarily comprised of low-income children between the ages of 3 and 5 years of age **Number of services randomised:** 18 (9 intervention; 9 control) **Numbers by trial group:** - n (controls baseline) = 9 - n (controls follow-up) = 9 (2 small services under same ownership analysed as 1 service) - n (interventions baseline) = 9 - n (interventions follow-up) = 9 **Recruitment:** ***Service:*** 42 childcare services were recruited, of which 24 services did not meet the inclusion criteria. Childcare health consultants from California and North Carolina recruited the convenience sample of services for their respective states while Connecticut services were recruited by the Connecticut principal investigator. ***Child:*** *Physical activity:* 8 children at each service, randomly selected by a statistician *BMI:* the research assistants selected children at the pre-intervention period for height and weight measurements from service-specific randomly ordered lists of enrolled children. Those with pre-intervention measurements (268) were prioritised for measurement post- intervention (336); 209 children had useable data at both time points. **Recruitment rate:** 43%

Alkon et al 2014 *(Continued)*

Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** Nutritional and Physical Activity Self-Assessment for Child Care (NAPSACC) programme including - Childhood obesity - Healthy eating for young children - Physical activity for young children - Personal health and wellness - Working with families to promote healthy behaviours **Implementation strategies:** - Workshop: The childcare health consultants facilitated 5 x 1-hour NAPSACC workshops for child care providers and other staff (e.g. cooks, administrators) at each of the intervention services on i) childhood obesity; ii) healthy eating for young children; iii) physical activity for young children; iv) personal health and wellness; and iv) working with families to promote healthy behaviours - Consultation: Childcare health consultants provided at least monthly onsite consultations, additional phone or email consultations and materials and resources (posters and information sheets on nutrition and physical activities). The childcare health consultants conducted a mean of 11 on-site visits and 8 off-site consultations per service over the 7 month intervention, in addition to the provider and parent workshops. - Policy support: Childcare health consultants worked with the service managers to write or update the service nutrition and physical activity policies - Parent workshop: Seven of the intervention services also received the parent workshop 'Raising Healthy Kids' **Who delivered the intervention:** Previously trained nurse childcare health consultants' **Theoretical underpinning:** Not reported **Description of control:** Delayed NAPSACC intervention in year 2 of the study

Alkon et al 2014 *(Continued)*

Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** **Service nutrition and physical activity policies:** - Data collection method: Californian Childcare Health Programme Health and Safety Checklist (CHPHSPC) completed by blinded research assistants and used to determine if the service's written policies adhered to national guidelines - Validity of measures used: Unclear - this policy measurement technique was used in another study and was shown to be a valid measure of the effect of childcare health consultant interventions on childcare service environments **Provider nutrition and physical activity policies:** - Data collection method: Modified version of the Environment and Policy Assessment and Observation (EPAO) was completed by a research assistant. Mean scores for the nutrition and physical activity scales were calculated for each service then aggregated by intervention and control services - Validity of measures used: Although these items were modified from a reliable instrument, they were not previously validated in the format included in this study **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** **Child physical activity:** - Data collection method: The Observation System for Recording Activity in Preschools (OSRAP) - Data collection was completed by a trained research assistant. Children were observed in 15-second intervals for a total of 12 to 16 minutes per child; the observations were conducted over an 8-hour day. Data were aggregated as the mean percentage of physical activity intensity (1 = stationary to 5 = fast) - Validity of measures used: The OSRAP has been validated and has been compared favourably with accelerometer data

Alkon et al 2014 *(continued)*

Outcomes *(continued)*	**Child weight status :** - Data collection method: BMI z-score - the research assistants used a portable foldable stadiometer to measure height and a digital scale to measure weight. Pre/post BMI z- score and % underweight, healthy weight, overweight and obese children - Validity of measures used: Unclear - appears to be an objective measure
Notes	N/A

RISK OF BIAS **Bias**	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Unclear risk	Authors indicate that the services were randomly assigned to treatment groups, but the sequence generation procedure was not described. One control group service that was not able to adequately complete baseline data col- lection was replaced by a matched service (unclear if this was randomly chosen).
Allocation concealment (selection bias)	Unclear risk	Method of concealment not described.
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Outcome assessment was undertaken by blinded research personnel and therefore the risk of detection bias is considered to be low
Incomplete outcome data (attrition bias) All outcomes	Low risk	Complete data collected for all services (8 control and 9 intervention), with no services excluded from the analysis - therefore risk of attrition bias is considered to be low
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Recruitment to cluster	Low risk	Selection of participants from each service for measurement of child diet, physical activity and BMI outcomes was random, so risk of bias through selection to cluster is considered to be low

Alkon et al 2014 *(Continued)*

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Baseline imbalance	Unclear risk	There is baseline imbalance in parent and child care provider characteristics but they adjust for some of these in the analysis
Loss of clusters	Unclear risk	In the control group replaced 1 cluster with a matched cluster and then merged 2 clusters (services that came under same management) for analysis
Incorrect analysis	Low risk	Hierarchical linear models conducted to assess child-level BMI z-score outcomes (ac- counting for clustering within the service)
Compatibility with individually randomised RCTs	Unclear risk	Unable to determine if a herd effect exists
Other bias	Unclear risk	N/A

Bell et al 2014[50]

Methods	**Study design:** Quasi-experimental trial **Intervention duration:** Average of 22 months between initiation of intervention and collection of follow-up data **Length of follow-up from baseline:** Average 22 months (between initiation of intervention and collection of follow-up data) **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service
Participants	**Service type:** Preschools and long day care services **Region:** Intervention: Hunter New England region, New South Wales, Australia Control: New South Wales, Australia **Demographic/socioeconomic characteristics:** Intervention: The Hunter New England region, a geographically large area (130,000 km^2) with a demographically diverse population including metropolitan urban and suburban areas, regional services, and rural and isolated remote communities. The region included pockets of wealth and poverty, and an overall socioeconomic status lower than the New South Wales state average. Control: Not reported **Inclusion/exclusion criteria:** All services located within the intervention region were invited to participate. Services were excluded that catered for children with special needs such as intellectual or physical disabilities. **Number of services randomised:** 583 (287 intervention, 296 control) **Numbers by trial group:** - n (controls baseline) = 251 - n (controls follow-up) = 191 - n (interventions baseline) = 261 - n (interventions follow-up) = 240 **Recruitment:** Intervention: All services (n=287) located within the intervention region were invited to participate. Control: A simple random sample of eligible centre-based childcare services in all other regions of the state of New South Wales were invited to participate in the study as the comparison group (n = 296) **Recruitment rate:** Intervention: 91% Control: 85%

Bell et al 2014 *(continued)*

Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** Healthy eating policies and practices of childcare services including: - Staff training in nutrition - Policy guiding the content of food and drinks provided to children by the service - Policy guiding the content of food and drinks packed for children by parents - Provision of non-sweetened drinks (milk and water) only to children during care - Parent participation in nutrition policy or programmes - Provision of foods to children consistent with dietary guidelines (for services that provide meals to children) and accreditation requirements **Implementation strategies:** - Identifying leaders and obtaining their support and endorsement of the programme and targeted policy and practices - Provision of professional development for staff (2 x 6 hour workshops (1 for staff and service managers, 1 for cooks and service managers) - Small incentives - Resource provision - Performance monitoring and feedback - Follow-up support (20 minute phone call once, 5 newsletters) **Who delivered the intervention:** The intervention was delivered by health service staff who worked with regional representatives of the Department of Community Services and childcare service staff to implement the intervention strategies **Theoretical underpinning:** The intervention was based on practice change and capacity building theoretical frameworks **Description of control:** from July 2008 onwards, preschool services (not including long day care services) in New South Wales were able to access implementation support via a government-supported programme that aimed to promote physical activity and healthy eating for children

Bell et al 2014 *(continued)*

Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** **Service healthy eating policies and practices:** - Staff with nutrition training - Services with a policy guiding the content of food and drinks provided to children by the service - Services with a policy guiding the content of food and drinks packed for children by parents - Services providing only water or plain milk to children - Parent participation in nutrition policy or programmes - Data collection method: Computer-assisted telephone interview with service managers. - Validity of measures used: Not reported. **Nutritional quality of lunch menus:** - Number of times processed foods high in fat, salt and/or sugar were listed on the menu each day - Number of times sweetened drinks were listed on the menu each day - Number of 'child size' servings of fruit listed on the menu each day - Number of 'child size' servings of vegetables listed on the menu each day **Classification into the following categories:** - No high fat, salt and/or sugar processed food menu items - No sweetened drink menu items - Water with every eating occasion - One 'child size' serving of fruit listed on the menu each day - The number of 'child size' servings of vegetables listed on the menu each day - Data collection method: All services were invited to submit a copy of their current 2 week menu - Validity of measures used: Not reported **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	N/A

Bell et al 2014 *(continued)*

RISK OF BIAS Bias	Authors' Judgement	Support for Judgment
Random sequence generation (selection bias)	High risk	Quasi-experimental design. High risk of selection bias as intervention services were recruited from a selected area. Control services were randomly selected from a comparison region. There were no details provided regarding the sequence generation procedure used to randomise control services for selection
Allocation concealment (selection bias)	High risk	Quasi-experimental design. Intervention services were recruited from a selected area, therefore high risk of bias as no concealment of allocation
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias
Blinding of outcome assessment (detection bias) All outcomes	High risk	Self-reported policies and practices. There was no blinding of research personnel or participants (service managers) and due to the self-report of this outcome, risk of bias is considered to be high
Incomplete outcome data (attrition bias) All outcomes	High risk	There was a large difference in the proportion of services followed up amongst intervention and control groups and the proportion that provided a menu for assessment: Intervention group: 91% of services surveyed at baseline were followed up and 61% provided a menu Control group: 76% of services from the control area (NSW) were followed up and 49% provided a menu Due to the magnitude of difference in the proportions of participants followed up between groups, the risk of bias is assessed as high

Bell et al 2014 *(continued)*

RISK OF BIAS *(continued)*		
Bias	**Authors' Judgement**	**Support for Judgment**
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Potential confounding	Unclear risk	Authors state that "Characteristics of services were not adjusted for in the logistic regression model as we were looking at change within services and the baseline score of the services effectively controlled for potential differences in baseline characteristics between the two regions." It is unknown whether this was adequate to reduce bias due to known confounders
Other bias	Unclear risk	N/A

Benjamin et al 2007[47]

Methods	**Study design:** Cluster randomised controlled trial (counties randomly allocated into either the intervention (n = 6) or comparison (n = 2) group; all eligible services were approached and services enrolled on a first come first served basis) **Intervention duration:** 6 months **Length of follow-up from baseline:** Approximately 10 months (assessments occurred 4 months after the 6 month intervention) **Differences in baseline characteristics:** Not reported **Unit of allocation:** County **Unit of analysis:** Childcare service
Participants	**Service type:** Childcare centres **Region:** North Carolina, US **Demographic/socioeconomic characteristics:** Not reported **Inclusion/exclusion criteria:** *Inclusion criteria:* Size of the childcare service (between 20 and 150 children); participation in the Child and Adult Care Food Program; rating of 3, 4 or 5 stars on the NC1-5 Star Rating System for quality child care. *Exclusion criteria:* Open case of child abuse or neglect; service provided services to a special population of children only; Head Start service; classified as a family child care home **Number of services randomised:** 19 (15 intervention; 4 control) **Numbers by trial group:** - n (controls baseline) = 4 - n (controls follow-up) = 4 - n (interventions baseline) = 15 (2 intervention services withdrew because their manager had left their position) - n (interventions follow-up) = 13 **Recruitment:** Convenience sampling - the North Carolina childcare regulatory agency provided a list of eligible childcare services for each intervention and comparison county. Two services were selected per county, except for 1 large county where 5 services participated **Recruitment rate:** Not reported

Benjamin et al 2007 *(Continued)*

Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** Nutritional and Physical Activity Self-Assessment for Child Care (NAPSACC) programme The programme focused on 15 nutrition and physical activity areas. Nutrition areas of focus included: fruits and vegetables; fried food and high-fat meats; beverages; menus and variety; meals and snacks; food items outside of regular meals and snacks; supporting healthful eating; nutrition education for children, parents and staff; and nutrition policy. Key physical activity areas of focus included: active play and inactive time; TV use and TV viewing; play environment; supporting physical activity; physical activity education for children, parents and staff; and physical activity policy. **Implementation strategies:** - Self Assessment: Childcare service managers, with assistance from key service staff, completed the self-assessment instrument to identify current service nutrition and physical activity policies and practices - Action Plan: NAPSACC trained childcare health consultants worked with the services to develop an action plan to improve at least 3 areas identified from the self-assessment instrument. Childcare service managers were asked to select their priority areas for improvement in order to facilitate the most fitting and lasting environmental changes at the service. - Workshops: The trained childcare health consultants delivered 3 x 30-minute workshops on being overweight, healthful eating and physical activity - Provision of technical assistance: Ongoing technical assistance (visits and calls) were provided by the childcare health consultants to service managers to support policy and practice changes **Who delivered the intervention:** NAPSACC trained childcare health consultants' **Theoretical underpinning:** NAPSACC is a theory-based programme that employs components of social cognitive theory against a backdrop of the socio-ecological framework. The inherent relationship between environment and behaviour has proven useful in intervention research. Social cognitive theory identifies several factors that influence behaviour change, including expectancies, observational learning, self-efficacy, behavioural capability, reinforcement and reciprocal determinism, which were all principles used to guide the NAPSACC intervention. **Description of control:** The comparison services did not receive any training or technical assistance from a childcare health consultant but completed only the pre and post self-assessment instrument.

Benjamin et al 2007 *(Continued)*

Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Total nutrition and physical activity score assessed using the self-assessment instrument, which included 29 nutrition and 15 physical activity questions with either a demonstrated or a perceived relationship to childhood overweight. Each question had 3 response categories, assigned 1, 2 or 3 points (1 = minimum standard, 2 = good, 3 = best practice) - Data collection method: Self-assessment instrument - Validity of measures used: Not established at time of study - additional work tests the reliability and validity of the NAPSACC self-assessment instrument in a sample of childcare services **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	N/A

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Unclear risk	Counties were matched and randomly allocated to control or intervention groups. The sequence generation procedure is not described
Allocation concealment (selection bias)	Unclear risk	Unclear as to whether concealment of allocation occurred.
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias

Benjamin et al 2007 *(continued)*

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Blinding of outcome assessment (detection bias) All outcomes	High risk	Self-assessment conducted by childcare service staff for nutrition and physical activity policies and practices No blinding of research personnel or participants (service managers) and due to the self-report of this outcome the risk of bias is considered high
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	17 of the 19 intervention group services had full data available and 4 of 4 control services. No information is provided on the characteristics of the services that dropped out, nor sensitivity analysis undertaken to test assumptions regarding missing data
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Recruitment to cluster	Unclear risk	All services within the county invited to participate and chosen to participate on first come basis - 2 per county, but 1 county was given permission to have 5 services participate
Baseline imbalance	Unclear risk	A convenience sample of 6 intervention and 2 comparison counties, matched on urban/rural status randomly allocated to intervention or comparison group. Unclear if baseline characteristic imbalances are present as this was not reported. Outcome measures at baseline were similar
Loss of clusters	Unclear risk	Unclear whether the 2 lost services were from the same county
Incorrect analysis	High risk	No statistical analysis completed due to small sample size
Compatibility with individually randomised RCTs	Unclear risk	Unable to determine if a herd effect exists
Other bias	Unclear risk	N/A

Finch et al 2012[34]

Methods	**Study design:** Quasi-experimental trial **Intervention duration:** 3 months (staggered) **Length of follow-up from baseline:** 18 months (follow-up was conducted approximately 12 months after the initiation of the intervention with wave 1 services, and approximately 6 months after the initiation of the intervention for wave 2 services) **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service
Participants	**Service type:** Preschools and long day care services **Region:** Intervention: Hunter New England region, New South Wales, Australia Control: New South Wales, Australia **Demographic/socioeconomic characteristics:** Intervention: The intervention region included a large non-metropolitan area (more than 130,000 km^2) encompassing urban and rural communities with a population of 60,970 children aged 0 to 5 years Control: The comparison region of New South Wales had an area of 801,305 km^2 and included major cities, inner regional services, outer regional services, remote and very remote areas. New South Wales has a population of 506,095 children aged 0 to 5 years **Inclusion/exclusion criteria:** *Inclusion criteria:* Long day care services and preschools in the Hunter New England area (intervention group) or the remainder of New South Wales (comparison group) as recorded by the licensing agency for such services *Exclusion criteria:* Services catering solely for children with special needs such as intellectual or physical disabilities **Number of services randomised:** 484 services participated in baseline measures Intervention: 275 (not randomised, those services approached who agreed to participate and completed baseline data collection) Control: 209 (of those randomly approached and who took part in baseline evaluation).

Finch et al 2012 *(continued)*

Participants *(continued)*	**Numbers by trial group:** - n (controls baseline) = 209 - n (controls follow-up) = 164 - n (interventions baseline) = 275 - n (interventions follow-up) = 228 **Recruitment:** Intervention: all services (n = 338) located within the intervention region were invited to participate Control: a simple random sample of eligible centre-based childcare services in all other regions of the state of New South Wales were invited to participate in the study as the comparison group (n = 298). **Recruitment rate:** Intervention: 81% Control: 83%
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** - Physical activity policy - Conducting daily fundamental movement sessions with recommended components - Time spent on structured physical activities - All staff usually participate in free active play - All staff usually provide verbal prompts for physical activity - Children are allowed to watch small screen recreation less than once per week - Staff trained in physical activity **Implementation strategies:** - Offer of staff training (1 x 6hour workshop) - Offer of information programme resources and instructional materials. - Offer of follow-up support (2 x 15 minute support calls, 2 support emails/faxes, 6 project newsletters) - Provision of performance monitoring and feedback regarding policy and practice adoption - Offer of incentives **Who delivered the intervention:** The staff training was delivered by external experts and follow-up support and performance monitoring and feedback (telephone) was delivered by health service staff **Theoretical underpinning:** Not reported

Finch et al 2012 *(continued)*

Interventions *(continued)*	**Description of control:** - Childcare service staff were invited to attend a full day workshop provided by a non-government organisation - Provision of a printed resource folder - Provision of a small financial grant to support staff attendance at training or the purchase of equipment - Opportunity for additional support strategies to be provided by local health services at their discretion
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** **Services with a physical activity policy that referred to:** - Child fundamental movement skills development - Limits on small screen recreation and TV - Physical activity training for staff - Services conducting daily fundamental movement sessions with recommend components - Time spent on structured physical activities - Services where all staff usually participate in free active play (role modelling) - Services where all staff usually provide verbal prompts for physical activity - Services where children are allowed to watch small screen recreation less than once per week - Services where children participate in seated activities for no longer than 30 minutes at a time - Services with staff trained in physical activity. - Data collection method: Service manager self-report via computer-assisted telephone interview - Validity of measures used: Unclear (developed following review of existing validated tools and pretested prior to use **Outcome relating to staff knowledge, skills or attitudes:** Service manager knowledge of: - The recommended time children should be sedentary - Child physical activity recommendations - The recommended maximum time children should watch television - Data collection method: Service manager self-report via computer-assisted telephone interview - Validity of measures used: Unclear

Finch et al 2012 *(continued)*

Outcomes *(continued)*	**Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	The study had multiple outcomes but did not appear to adjust the p-value for multiple comparisons

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	High risk	Quasi-experimental design. High risk of selection bias as the intervention services were recruited from a selected area. Control services were randomly selected from a comparison region. No detail is provided regarding the sequence generation procedure used to randomise control services for selection. Table 2 shows that services within the intervention and comparison sites differed significantly in terms of socioeconomic areas, geographic locality and services with children of an Aboriginal background.
Allocation concealment (selection bias)	High risk	Quasi-experimental design. Intervention services were recruited from a selected area, therefore high risk of bias as no concealment of allocation
Blinding of participants and personnel (performance bias) All outcomes	Unclear risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation, however, as the control group may have also received some form of intervention, systematic bias between groups in terms of performance bias is unknown
Blinding of outcome assessment (detection bias) All outcomes	High risk	Self-reported physical activity policies and practices. No blinding of research personnel or participants (service managers) and due to the self-report of this outcome, the risk of bias is considered to be high

Finch et al 2012 *(continued)*

RISK OF BIAS *(continued)*		
Bias	**Authors' Judgement**	**Support for Judgment**
Incomplete outcome data (attrition bias) All outcomes	Unclear risk	83% of intervention group services included in final post-test data analysis; 78% of comparison group services included in final post-test data analysis. While these proportions are similar, it is unclear whether the services lost to follow-up differed between groups. No sensitivity analysis reported to test assumptions regarding missing data
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Potential confounding	Unclear risk	Authors state that "Characteristics of services were not adjusted for in the logistic regression model as we were looking at change within services and the baseline score of the services effectively controlled for potential differences in baseline characteristics between the two regions." It is unknown whether this was adequate to reduce bias due to known confounders
Other bias	Unclear risk	N/A

Finch et al 2014[51]

Methods	**Study design:** Cluster randomised controlled trial **Intervention duration:** 7 months **Length of follow-up from baseline:** 8 months **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service (child physical activity was assessed at the level of the individual)
Participants	**Service type:** Centre based long day care services **Region:** Hunter region, New South Wales **Demographic/socioeconomic characteristics:** The Hunter region encompasses non-metropolitan 'major cities' and 'inner regional' areas with 14,061 children aged 3 to 5 years residing in the area. 5% of residents speak languages other than English and 2% of residents are of Aboriginal or Torres Strait Islander origin. The Hunter region has lower indices of socioeconomic status than the New South Wales state average. **Inclusion/exclusion criteria:** *Inclusion criteria:* Centre-based long day care services (providing care for a minimum of 8 hours a day). Services were required to have at least 25 enrolled children aged between 3 to 5 years. Children aged 3 to 5 years attending participating services were eligible for the study if they attended on the day of the week nominated by the service manager for baseline data collection. **Number of services randomised:** 20 (10 intervention [242 children]; 10 control [215 children]) **Numbers by trial group:** - n (controls baseline) = 10 - n (controls follow-up) = 10 - n (interventions baseline) = 10 - n (interventions follow-up) = 10 **Recruitment:** A total of 70 childcare services in the study region served as the sampling frame **Recruitment rate:** 54%

Finch et al 2014 *(Continued)*

Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** - Fundamental movement skill development activity sessions - Staff delivery of structured physical activity - Staff role modelling of active play and delivery of verbal prompts - Limiting small screen recreation and sedentary time - Providing children with a physical activity promoting indoor and outdoor physical environment - Physical activity policy **Implementation strategies:** - Staff training (6 hour workshop for childcare service staff) - Provision of resources - Follow-up support (2 telephone support calls and a 2 hour service visit) - Performance feedback via project newsletter on 2 occasions - Incentives - Opinion leaders **Who delivered the intervention:** Workshop and follow-up component delivered by experts **Theoretical underpinning:** the multi-level intervention was designed using the social ecological models of health behaviour change **Description of control:** Wait list control group that did not receive the intervention or any intervention support or materials during the study period and were offered the intervention after collection of all follow-up data
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** - Fundamental movement skill development activity sessions - Staff delivery of structured physical activity - Staff role modelling of active play and delivery of verbal prompts - Limiting small screen recreation and sedentary time - Physical activity promoting resources and materials - Portable equipment - Physical activity policy - Data collection method: Observational audit – EPAO was conducted by 2 trained research staff - Validity of measures used: EPAO has reported high inter-observer agreement but other psychometric properties of this tool are not reported

Finch et al 2014 *(Continued)*

Outcomes *(continued)*	**Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** The number of child injuries recorded at the service in the month of data collection at baseline and follow-up - Data collection method: Service Manager self-report via interview - Validity of measures used: Unclear **Outcome relating to child diet, physical activity or weight status:** **Child step count:** - Data collection method: Pedometer worn for 1 day during attendance at the childcare service - Validity of measures used: A valid measure of physical activity in preschool age children
Notes	The trial had multiple outcomes but did not appear to adjust the p-value for multiple comparisons

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Low risk	Computerised random number function in Microsoft Excel was used to generate random number sequence
Allocation concealment (selection bias)	Low risk	Statistician not involved in the project allocated the services to groups using a computerised program
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias

Finch et al 2014 *(Continued)*

RISK OF BIAS *(continued)*		
Bias	**Authors' Judgement**	**Support for Judgment**
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Implementation of policies and practices measured using observational audit - research staff undertaking audits were blind to group allocation
Incomplete outcome data (attrition bias) All outcomes	Low risk	Implementation of policies and practices - no loss to follow-up (10 intervention services; 10 control services)
Selective reporting (reporting bias)	Low risk	There are no unreported outcomes according to those planned in the published protocol
Recruitment to cluster	Low risk	For the child physical activity measure, children were recruited by service managers at the service selecting a day of the week for measurement to occur. Allocation was not revealed to services until after baseline data collection
Baseline imbalance	High risk	Baseline imbalance in services in areas of higher socioeconomic status (intervention 90%, control 60%) and average years of operation (intervention 8 years, control 20 years) and no mention of adjustment within analysis
Loss of clusters	Low risk	100% followed up
Incorrect analysis	Low risk	Generalised linear mixed model accounting for children nested within services)
Compatibility with individually randomised RCTs	Unclear risk	Unable to determine if a herd effect exists
Other bias	Unclear risk	N/A

Gosliner et al 2010[48]

Methods	**Study design:** Randomised trial **Intervention duration:** Not reported **Length of follow-up from baseline:** 10 months **Differences in baseline characteristics:** Not reported by group **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service staff
Participants	**Service type:** Childcare centres **Region:** California, US **Demographic/socioeconomic characteristics:** Childcare services were located in low- income neighbourhoods in Northern California **Inclusion/exclusion criteria:** I*nclusion criteria*: services that were already participating in a health education and policy development project (Child Health and Nutrition Service Enhancement) with the Contra Costa Child Care Council **Number of services randomised:** 18 (9 intervention; 9 control) **Numbers by trial group:** - n (controls baseline) = 7 - n (controls follow-up) = 7 - n (interventions baseline) = 6 - n (interventions follow-up) = 6 **Recruitment:** Nine pairs of eligible services were matched on city of location and programme size and were randomised to either the intervention or control group **Recruitment rate:** 84% entered the study
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** Nutrition and physical activity policies, children's food and physical activity environment

Gosliner et al 2010 *(Continued)*

Interventions *(continued)*	**Implementation strategies:**
	- Training and technical assistance regarding children's health and nutrition
	- Received a set of nutrition and physical activity policies
	- Staff wellness programme consisting of:
	  - Kick-off wellness training with individual health consultations including education, individual health assessments
	  - Monthly newsletters and information with pay checks promoting healthy eating and physical activity
	  - Group walking programme with awards for reaching milestones
	  - Staff follow-up support visits
	Theoretical underpinning: Not reported
	Description of control: Control services received training and technical assistance regarding children's health and nutrition and received a set of nutrition and physical activity policies

Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** - Staff providing fresh fruits in children's meals and snacks more often during the past year - Staff providing fresh vegetables in children's meals and snacks more often during the past year - Staff providing sweetened beverages in children's meals and snacks more often during the past year - Staff providing sweetened foods in children's meals and snacks more often during the past year - Staff providing fresh fruits in children's celebrations more often during the past year - Staff providing fresh vegetables in children's celebrations more often during the past year - Staff providing sweetened beverages in children's celebrations more often during the past year - Staff providing sweetened foods in children's celebrations more often during the past year - Data collection method: Childcare service staff self-report via questionnaire - Validity of measures used: Unclear **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	The study did not report baseline values for the implementation outcomes

Gosliner et al 2010 *(Continued)*

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Unclear risk	Services were matched on city of location and programme size and were randomised to intervention or control group. The sequence generation procedure was not reported
Allocation concealment (selection bias)	Unclear risk	Whether pending allocation was concealed is unclear as no information was provided on concealment
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias
Blinding of outcome assessment (detection bias) All outcomes	High risk	Self-reported by service managers, therefore high risk of bias due to managers being aware of allocation
Incomplete outcome data (attrition bias) All outcomes	High risk	Data were available for 50 (56%) participants in the intervention group and 39 (44%) in the control group. Of those not returning at endpoint, most had changed employment (80%) or were on leave or vacation (14%). Seven intervention staff who reported participating in less than half of the intervention activities were considered inadequately exposed and were excluded from the analysis, leaving 43 staff in the intervention group. Therefore the intention-to-treat principle was not applied
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Other bias	Unclear risk	N/A

Hardy et al 2010[10]

Methods	**Study design:** Cluster randomised controlled trial **Intervention duration:** 5 months **Length of follow-up from baseline:** 5 months **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service (staff knowledge and attitudes were assessed at the level of the individual)
Participants	**Service type:** Preschools **Region:** Sydney, New South Wales, Australia **Demographic/socioeconomic characteristics:** Not described **Inclusion/exclusion criteria:** *Inclusion criteria:* preschools operating under the auspices of the New South Wales Department of Education and Training located in the Sydney, Western Sydney and South Western Sydney education regions of New South Wales **Number of services randomised:** 29 (15 intervention; 14 control) **Numbers by trial group:** - n (controls baseline) = 14 - n (controls follow-up) = 14 - n (interventions baseline) = 15 - n (interventions follow-up) = 15 **Recruitment:** All eligible preschools were invited to participate in the study (n=61) **Recruitment rate:** 48%
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** 'Munch and Move' programme: - Healthy eating and ways of incorporating food-based activities into the education programme - Physical activity and ways of incorporating fun, games-based skills activities into the programme - Strategies to encourage children to limit their recreational screen time - Providing opportunities for children to engage in unstructured physically active play - Developing and implementing healthy nutrition and physical activity fundraising policies

Hardy et al 2010 *(Continued)*

Interventions *(Continued)*	**Implementation strategies:** - One day professional development workshop for up to 2 staff, delivered by a specialised early childhood training organisation - Resources for preschools that included a manual and a small grant to support staff to attend training or purchase physical activity equipment for the service - Contact with health promotion professionals from the local health service, to provide additional advice to preschools to support the delivery of the programme including 2 visits post-workshop **Who delivered the intervention:** Experts and health service staff **Theoretical underpinning:** Not reported **Description of control:** control preschools received health information on unrelated topics (road safety and sun safety) during the intervention period
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** - Structured play time (minutes per session) - Frequency of structured play (sessions per week) - Unstructured play time (minutes per session) - Frequency of unstructured play (sessions per week) - Fundamental movement skill activities (minutes per session) - Frequency of fundamental movement skill activities (sessions per week) - Conduct of food-based activities - Rules concerning food and drink brought in from home - Food policies - Communicating food rules and policies to parents - Data collection method: Interview with the service manager - Validity of measures used: Unclear **Outcome relating to staff knowledge, skills or attitudes:** Knowledge of recommended guidelines for children: - Daily serves of fruit - Daily serves of vegetables - Recreational screen time (TV/DVDs) (hours per day)

Hardy et al 2010 *(Continued)*

Outcomes *(continued)*	**Outcome relating to staff knowledge, skills or attitudes:** *(continued)* Attitudes (agreement with statement): - Teachers do not need to act as role models for being active - It is not the role of the teacher to teach movement skills - It is not important that children participate in structured active play - Safety concerns limit active play opportunities in the preschool setting - It is not the role of the teacher to teach about healthy eating - Parents should be able to send any type of food to school with their child - It is alright to sell chocolates and sweets for fundraising - Data collection method: Childcare service staff self-report via questionnaire - Validity of measures used: Unclear **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	N/A

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Unclear risk	The procedure for random sequence generation was not described
Allocation concealment (selection bias)	Unclear risk	Whether pending allocation was concealed is unclear as no information is provided on concealment
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias

Hardy et al 2010 *(Continued)*

RISK OF BIAS *(continued)*		
Bias	**Authors' Judgement**	**Support for Judgment**
Blinding of outcome assessment (detection bias) All outcomes	High risk	Policies and practices - self-reported by service managers in interviews with research staff, therefore high risk of bias due to managers being aware of allocation
Incomplete outcome data (attrition bias) All outcomes	Low risk	All service managers followed up in both groups - therefore low risk of bias for outcome regarding implementation of policies and practices
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Recruitment to cluster	Low risk	All parents of participating services were invited to allow their children to participate
Baseline imbalance	Unclear risk	Unclear response rate of children in each group - imbalance in numbers of students (intervention 263, control 167); some imbalances in baseline characteristics (mean years teaching experience: intervention 4.5 years, control 6 years; teacher's aide: intervention 11.1 years, control 8.9 years; children attending 2 days per week: intervention 22%, control 11%; children attending 3 days per week: intervention 21%, control 42%; English speaking: intervention 58%, control 41%) - unknown if any were significant. Adjustment of some characteristics in analysis
Loss of clusters	Low risk	No loss of clusters
Incorrect analysis	Low risk	CSPlan procedure used to allow for clustering within service class
Compatibility with individually randomised RCTs	Unclear risk	Unable to determine if a herd effect exists
Other bias	Unclear risk	N/A

Johnston Molloy et al 2013[52]

Methods	**Study design:** Randomised parallel-group trial **Intervention duration:** Not specified **Length of follow-up from baseline:** Not specified **Differences in baseline characteristics:** Not reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service
Participants	**Service type:** Preschools **Region:** Republic of Ireland **Demographic/socioeconomic characteristics:** Preschools were situated in towns, villages and the countryside across 4 midland counties in a geographical area defined as disadvantaged **Inclusion/exclusion criteria:** *Inclusion criteria:* preschools providing a 'full day care service' (i.e. for more than 5 hours per day) *Exclusion criteria:* preschools that provided only sessional (less than 3.5 hours per session) or part-time care for children; preschools designated as ineligible by the Preschool Inspection Team due to insufficient standard in other pre-defined areas of inspection; preschools that had not been inspected by the Preschool Inspection Team in the previous 12-month period **Number of services randomised:** 61 (30 intervention group 'manager trained', 31 intervention group 'manager and staff trained') **Numbers by trial group:** - n (intervention group 'manager trained' baseline) = 30 - n (intervention group 'manager trained' follow-up) = 24 - n (intervention group 'manager and staff trained' baseline) = 31 - n (intervention group 'manager and staff trained' follow-up) = 18 **Recruitment:** convenience sampling was undertaken. An up-to-date list of preschools (n=100) providing a 'full daycare service' was obtained and these preschools were invited to participate **Recruitment rate:** 61%
Interventions	**Number of experimental conditions:** 2 (intervention group 'manager trained', intervention group 'manager and staff trained')

Johnston Molloy et al 2013 *(Continued)*

Interventions *(Continued)*	**Policies, practices or programmes targeted by the intervention:** - Adequate meal and snack composition - Healthy foods and fluids - Appropriate serving size provision - Family style food service - Healthy preschool policy development **Implementation strategies:** Intervention 'manager trained': - 1-hour manager training session with a research dietitian - Provision of resources (Preschool Nutrition and Health Education Resource) and best practice criterion (Preschool Health Promotion Activity Scored Evaluation Form) - Provision of individualised 'written feedback record' from a pre-intervention observation visit, suggested strategies for improvement discussed with the manager **Who delivered the intervention:** Dietitians **Theoretical underpinning:** Not reported Intervention 'manager and staff trained': - 1 hour manager training session with a research dietitian - 1.5 hour structured staff education session with a research dietitian including presentation, group work exercises and discussion - Provision of resources (Preschool Nutrition and Health Education Resource) and best practice criterion (Preschool Health Promotion Activity Scored Evaluation Form) - Provision of individualised 'written feedback record' from a pre-intervention observation visit, suggested strategies for improvement discussed with the manager **Who delivered the intervention:** Dietitians **Theoretical underpinning:** Not reported

Johnston Molly et al 2013 *(Continued)*

Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** - Environment - Food service - Meals - Snacks - Overall score - Data collection method: One day observation, preschool manager self-report - Validity of measures used: Used the validate Preschool Health Promotion Activity Scored Evaluation Form **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	N/A

Johnston Molloy et al 2013 *(Continued)*

RISK OF BIAS Bias	Authors' Judgement	Support for Judgment
Random sequence generation (selection bias)	Low risk	A random number table was used to allocate services to treatment groups
Allocation concealment (selection bias)	Low risk	We assumed that allocation was conducted in a single, automated process via the random number table and therefore allocation could not be pre-empted
Blinding of participants and personnel (performance bias) All outcomes	Unclear risk	Due to nature of the intervention (training), childcare service staff and study personnel delivering the intervention were not blind to study allocation, however as both groups received some form of intervention it is unknown if there is a systematic difference in the potential for performance enhancement and therefore bias
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information provided on whether the individuals conducting the outcome assessment (audits) were blind to group allocation
Incomplete outcome data (attrition bias) All outcomes	High risk	Of 31 services allocated to the 'manager and staff training' intervention, only 18 received the intervention and had follow-up data collected. Of the 30 services allocated to the 'manager training' group, 27 received the intervention and 24 had follow-up data collected. Although data are provided to demonstrate no significant difference between those who participated and did not, this analysis is conducted for all services, not by group. Rated as high risk of bias due to the magnitude of differences in participants lost to follow-up between groups
Selective reporting (reporting bias)	Unclear risk	No prospective trial protocol or trial registration so it is unclear whether there was selective outcome reporting
Other bias	Unclear risk	N/A

Ward et al 2008[35]

Methods	**Study design:** Randomised controlled trial **Intervention duration:** 6 months **Length of follow-up from baseline:** 6 months **Differences in baseline characteristics:** Reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service
Participants	**Service type:** Childcare centres **Region:** North Carolina, US **Demographic/socioeconomic characteristics:** Not described **Inclusion/exclusion criteria:** *Inclusion criteria:* Current enrolment of 15 to 150 children *Exclusion criteria:* Services with an open case of abuse or neglect or served only a special population **Number of services randomised:** 84 (56 intervention, 26 control, 2 excluded following randomisation) **Numbers by trial group:** - n (controls baseline) = 26 - n (controls follow-up) = 26 - n (interventions baseline) = 56 - n (interventions follow-up) = 56 **Recruitment:** All childcare health consultants working in North Carolina were invited to participate. A convenience sample was selected by recruiting the first 30 childcare health consultants (only 1 per county) who indicated an interest in participation, worked with at least 3 childcare services meeting eligibility requirements, and had not participated in the previous pilot project. **Recruitment rate:** Not reported

Ward et al 2008 *(Continued)*

Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** NAPSACC programme. Best practices for the promotion of proper nutrition and regular physical activity at childcare. The programme focused on 15 nutrition and physical activity areas. Nutrition areas of focus included: fruits and vegetables; fried food and high-fat meats; beverages; menus and variety; meals and snacks; food items outside of regular meals and snacks; supporting healthful eating; nutrition education for children, parents and staff; and nutrition policy. Key physical activity areas of focus included: active play and inactive time; TV use and TV viewing; play environment; supporting physical activity; physical activity education for children, parents and staff; and physical activity policy **Implementation strategies:** - Provision of educational materials - Self-assessment instrument completed by service managers - Action planning to improve at least 3 target areas identified from the self-assessment - Education workshops on child being overweight, healthy eating and physical activity for children delivered by childcare health consultants - Provision of technical assistance to service staff via in-person visits and telephone contact - Re-assessment using the self-assessment tool **Who delivered the intervention:** Trained childcare health consultants **Theoretical underpinning:** Social cognitive theory against a social-ecologic framework **Description of control:** Delayed intervention control group
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** - Total nutrition score - Total physical activity score - Data collection method: EPAO tool including 1 day observation and a review of pertinent service documents conducted by trained observers. 75 items were selected to evaluate the impact of the intervention. All 75 item responses were converted to a 3 point scale (0, 1 and 2), averaged within a given subscale, and multiplied by 10, with the average of all subscale scores representing total nutrition and physical activity scores. - Validity of measures used: Not established at time of study - additional work tests the reliability and validity of the NAPSACC self-assessment instrument in a sample of childcare services

Ward et al 2008 *(Continued)*

Outcomes *(Continued)*	**Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Not applicable
Notes	N/A

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	Unclear risk	No information provided on the method for generating random sequence for allocation of childcare health consultants to treatment groups
Allocation concealment (selection bias)	Unclear risk	No information provided on concealment of allocation of childcare health consultants to groups
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention childcare service staff and study personnel delivering the intervention were not blind to the study allocation and therefore there is a potential high risk of performance bias
Blinding of outcome assessment (detection bias) All outcomes	Low risk	Outcome assessors were blind to group allocation of services and the tool used was observational
Incomplete outcome data (attrition bias) All outcomes	Low risk	82 of 84 services recruited were followed up - 2 services were lost to follow-up due to closure
Selective reporting (reporting bias)	Unclear risk	Authors state that the outcome measures were determined a priori but unknown if these are listed in a study protocol or trial registry
Other bias	Unclear risk	N/A

Williams et al 2002[49]

Methods	**Study design:** Quasi-experimental trial **Intervention duration:** 3 years **Length of follow-up from baseline:** 6 months, 18 months **Differences in baseline characteristics:** Not reported **Unit of allocation:** Childcare service **Unit of analysis:** Childcare service (child diet and weight status was assessed at the level of the individual)
Participants	**Service type:** Head Start Services - Preschools **Region:** Upstate New York, US **Demographic/socioeconomic characteristics:** Low income, predominantly minority preschool children **Inclusion/exclusion criteria:** Not reported **Number of services randomised:** 9 (3 intervention: food service modification plus classroom education with nutrition modules, 3 intervention: food service modification plus classroom safety education, 3 control) **Numbers by trial group:** - n (controls baseline) = 3 - n (controls follow-up) = 3 - n (interventions: food service modification plus classroom education baseline) = 3 - n (interventions: food service modification plus classroom education follow-up) = 3 - n (interventions: food service modification plus classroom safety education baseline) = 3 - n (interventions: food service modification plus classroom safety education follow-up) = 3 **Recruitment:** Not reported **Recruitment rate:** Not reported
Interventions	**Number of experimental conditions:** 3 (intervention: food service modification plus classroom education with nutrition modules, intervention: food service modification plus classroom safety education, control) **Policies, practices or programmes targeted by the intervention:** Food service modification: - Achieving a 5 day a week meal/snack plan that provided no more than 30% energy from total fat and no more than 10% energy from saturated fat - Increased offering of fruit, vegetables, breads and grains in meals, decreased total and saturated fat content of foods purchased for the service and decreased total and saturated fat due to alterations in food preparation techniques

Williams et al 2002 *(continued)*

Interventions *(continued)*	**Implementation strategies:** Intervention: Food service modification plus classroom education with nutrition modules: - Healthy Start Comprehensive Preschool Health Education Curriculum - core curriculum plus nutrition-related units - One day training programme for cooks, which covered the major food service intervention areas: menu planning, recipe development, food purchasing and food preparation - A list of objectives was developed together with the cooks - Ongoing support from registered dietitian - Manual, newsletters and incentives Intervention: Food service modification plus classroom safety education: - Healthy Start Comprehensive Preschool Health Education Curriculum - core curriculum plus safety-related unit - One day training programme for cooks, which covered the major food service intervention areas: menu planning, recipe development, food purchasing and food preparation - A list of objectives was developed together with the cooks - Ongoing support from registered dietitian - Manual, newsletters and incentives **Who delivered the intervention:** Registered dietitians **Theoretical underpinning:** Not reported **Description of control:** Healthy Start Comprehensive Preschool Health Education Curriculum - core curriculum plus safety-related units
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Change in service menu: - kcal - Total fat - Saturated fat - % kcal from total fat - % kcal from saturated fat

Williams et al 2002 *(continued)*

Outcomes *(continued)*	- Data collection method: Service menus were analysed for nutrient content by obtaining menus, recipes and food labels for 5 days at each data collection time point - Validity of measures used: Unclear **Outcome relating to staff knowledge, skills or attitudes:** Not applicable **Outcome relating to cost:** Not applicable **Outcome relating to adverse consequences:** Not applicable **Outcome relating to child diet, physical activity or weight status:** Change in child preschool meal dietary intake: - Energy (kcal) - Total fat - Saturated fat - % kcal from total fat - % kcal from saturated fat - Data collection method: Direct observation of children during attendance at the service with plate waste measurement to determine amounts of foods and beverages consumed - Validity of measures used: The complete dietary intake assessment protocol was adapted from existing protocols proven to be reliable and valid Child weight staus: - Data collection method: Measurements of child weight (using digital scale) and height (using telescopic measuring rod) obtained by trained staff. Weight to height ratio calculated at baseline and at 6 months - Validity of measures used: Unclear – appears to be an objective measure
Notes	For the analysis, all services assigned to the food service intervention arm of the study were grouped together, as were the services assigned to the control condition

Williams et al 2002 *(continued)*

RISK OF BIAS		
Bias	**Authors' Judgement**	**Support for Judgment**
Random sequence generation (selection bias)	High risk	No random allocation to control and intervention conditions (random allocation to 1 of 2 intervention conditions)
Allocation concealment (selection bias)	Unclear risk	Unclear as to whether concealment of allocation occurred
Blinding of participants and personnel (performance bias) All outcomes	High risk	We assumed that due to the nature of the intervention, childcare service staff and study personnel delivering the intervention were not blind to the study allocation, and therefore there is a potential high risk of performance bias
Blinding of outcome assessment (detection bias) All outcomes	Unclear risk	No information is provided on whether research personnel undertaking menu assessment and other data collection were blind to group allocation
Incomplete outcome data (attrition bias) All outcomes	Low risk	Implementation data collected on all intervention (n = 6) and control services (n = 3) pre- and post-intervention
Selective reporting (reporting bias)	Low risk	Methodology paper also lists physiological measures - these have been published elsewhere
Potential confounding	Unclear risk	No information provided
Other bias	Unclear risk	N/A

BMI: body mass index
EPAO: Environment and Policy Assessment and Observation
NAPSACC: Nutrition and Physical activity Self-Assessment for Child Care
OSRAP: Observation System for Recording Activity in Preschools
RCT: randomised controlled trial

Baby NAPSACC* Intervention Study[80]

Trial name or title	Baby NAPSACC* Intervention Study[80]
Methods	**Study design:** Randomised trial
Participants	**Service type:** Childcare centres **Region:** North Carolina, US **Number of services participating:** Not specified
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** No specified **Implementation strategies:** - Service and family self-assessment - Targeted technical assistance provided by Baby NAPSACC consultant for providers and parents - Training workshops for child care providers - Parent outreach and support
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Change in childcare service policies practices
Starting date	2013
Contact information	Sara Benjamin Neelon, sara.benjamin@dm.duke.edu
Notes	ClinicalTrials.gov Identifier: NCT01890681

*****NAPSACC: Nutrition and Physical Activity Self-Assessment for Child Care

Finch et al 2015[81]

Trial name or title	A pragmatic randomised controlled trial of an implementation intervention to increase healthy eating and physical activity promoting policies, and practices in centre-based childcare services.
Methods	**Study design:** Randomised controlled trial
Participants	**Service type:** Childcare centres (Preschools and long day care services) **Region:** Hunter New England region, New South Wales, Australia **Number of services participating:** 165
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** - Having a service policy (nutrition, physical activity and small screen recreation) - Service providing information to families (healthy eating, physical activity, small screen time and breast feeding, where relevant - Service providing structured and specific learning experiences about healthy eating at least 2 times per week - Service supplying age appropriate drinks to children (only water and age appropriate milk) - Service conducting fundamental movement skills activities for children aged 3 to 5 years every day to at least 90% of children - Service limiting use of small screen recreation by children aged 3 to 5 years to only educational purposes and for learning experiences **Implementation strategies:** - Performance review intervention with other resources
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Proportion of services implementing all of the recommended healthy eating and physical activity promoting practices
Starting date	2013
Contact information	Meghan Finch, meghan.finch@hnehealth.nsw.gov.au
Notes	Australian Clinical Trials Registry: ACTRN12614000972628

Jones et al 2014[82]

Trial name or title	A randomised controlled trial of an intervention to facilitate the implementation of healthy eating and physical activity policies and practices in childcare services
Methods	**Study design:** Randomised controlled trial
Participants	**Service type:** Childcare centres (Preschools and Long Daycare services) **Region:** Hunter New England region, New South Wales, Australia **Number of services participating:** 128
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** - Written nutrition and physical activity policies - Staff monitoring of children's lunch boxes against written nutritional guidelines and provision of feedback to parents when a non-compliant food is packed - Provision of water or reduced fat milk only to children - Staff role modelling of physically active play and health eating - Staff prompts and positive comments to children to encourage physical activity and healthy eating - Provision of adult-guided fundamental movement skill development activities - Restriction of sedentary screen time **Implementation strategies:** - Implementation support staff - Executive support - Consensus processes - Staff training - Academic detailing visits - Performance monitoring and feedback - Tools and resources - Communication strategy
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Change in prevalence of services implementing all healthy eating and physical activity policies and practices
Starting date	2012
Contact information	Jannah Jones, Jannah.jones@hnehealth.nsw.gov.au
Notes	Australian Clinical Trials Registry: ACTRN12612000972

The Healthy Start Study[83]

Trial name or title	A multilevel intervention to increase physical activity and improve healthy eating among young children (ages 3 to 5) attending early childcare centres: the Healthy Start Study
Methods	**Study design:** Randomised controlled trial
Participants	**Service type:** Early childcare **Region:** Canada **Number of services participating:** not specified
Interventions	**Number of experimental conditions:** 2 (intervention, control) **Policies, practices or programmes targeted by the intervention:** - Intersectoral partnerships that leads to promoting healthy weights in communities and child care services - The Healthy Start guide for educators - Customized training - Role modelling and monitoring - An evidence based resource for both families and educators and supplementary resources from governmental partners - Knowledge development and exchange - Communication strategy **Implementation strategies:** - Performance review intervention with other resources
Outcomes	**Outcome relating to the implementation of childcare service policies, practices or programmes:** Early childcare centre practices and policies for physical activity and nutrition
Starting date	2015
Contact information	Holly Hallikainen, hlh664@mail.usask.ca
Notes	ClinicalTrials.gov Identifier: NCT02375490

STUDY	REASON FOR EXCLUSION
Adamo 2014[87]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Adams 2012[88]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Agrawal 2012[89]	Non-controlled study
Alhassan 2013[90]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Alhassan 2014[91]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Androutsos 2014[92]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Antoine 2012[93]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Bammann 2007[94]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Battista 2014[95]	Non-controlled study
Bellows 2007[96]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Bellows 2013[97]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Benjamin 2008[98]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Bisceglie 2010[99]	Non-controlled study
Bonis 2014[100]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Bryars 2014[101]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Buscemi 2014[102]	Inappropriate participants
Carpenter 2010[103]	Non-controlled study
Crowley 2009[104]	Non-controlled study
Céspedes 2013[105]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
D'agostino 1999[106]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Davis 2013[107]	Non-controlled study
De Bock 2013[108]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme

STUDY	REASON FOR EXCLUSION
De Craemer 2014[109]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
De Silva-Sanigorski 2010[9]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
De Silva-Sanigorski 2011[110]	Inappropriate participants
De Silva-Sanigorski 2012[54]	No baseline data
Duncan 2011[111]	Non-controlled study
Endres 2003[112]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Falbe 2013[113]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Farfan-Ramirez 2011[114]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Ferrer 2014[115]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Fitzgerald 2014[116]	Non-controlled study
Fitzgibbon 2002[117]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Fitzgibbon 2005[118]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Fitzgibbon 2006[119]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Fitzgibbon 2011[120]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Foltz 2012[121]	Non-controlled study
Foulkes 2014[122]	Non-controlled study
Fritz 2007[123]	Non-controlled study
Gallois 2011[124]	Non-controlled study
Gannon 2013[125]	Non-controlled study
Gannon 2014[126]	Non-controlled study
Girardet 2009[127]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Goldberg 2010[128]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Goldfield 2012[129]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Goldfield 2014[130]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Golley 2011[131]	Non-controlled study

STUDY	REASON FOR EXCLUSION
Graham 2008[132]	Inappropriate participants
Hammons 2013[133]	Non-controlled study
Hanna 2012[134]	Inappropriate intervention
Harvey 2008[135]	Non-controlled study
Helland 2013[136]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Herbert 2013[137]	Non-controlled study
Herman 2012[138]	Non-controlled study
Isbell 2013[139]	Non-controlled study
Jones 2010[140]	Inappropriate participants
Jouret 2009[141]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Kain 2012[142]	Inappropriate participants
Korwanich 2008[53]	No reporting of between-group differences in implementation outcomes
Lent 2012[143]	Inappropriate participants
Lerner-Geva 2015[144]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Manios 2012[145]	Non-controlled study
Manios 2013[146]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Mazzeo 2012[147]	Non-controlled study
Metcalf 2012[148]	Non-controlled study
Mier 2005[149]	Non-controlled study
Mo-suwan 1998[150]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Najjar 2012[151]	Non-controlled study
NAPNAP 2006[152]	Non-controlled study
Natale 2014[153]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Nemet 2011[154]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Nemet 2013[155]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Niederer 2009[156]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Niederer 2013[157]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Organizational Research Services 2003[158]	Non-controlled study

STUDY	REASON FOR EXCLUSION
Page 2011[159]	Non-controlled study
Partington 2012[160]	Non-controlled study
Passehl 2004[161]	Non-controlled study
Patel 2010[162]	Non-controlled study
Peregrin 2001[163]	Non-controlled study
Phillips 2004[164]	Non-controlled study
Prosper 2009[165]	Inappropriate participants
Ramsay 2013[166]	Inappropriate intervention
Requena 2010[167]	Non-controlled study
Roth 2011[168]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Roths 2002[169]	Non-controlled study
Rudolf 2010[170]	Non-controlled study
Sanigorski 2008[171]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Santos-Beneit 2013[172]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Savage 2006[173]	Inappropriate participants
Schindler 2013[174]	Non-controlled study
Schwarz 2013[175]	Non-controlled study
Sekhobo 2012[176]	Inappropriate participants
Skouteris 2014[177]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Small 2007[178]	Inappropriate participants
Smiciklas-Wright 1978[179]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Stock 2007[180]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Stolley 2003[181]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Story 2012[182]	Inappropriate participants
Strauß 2011[183]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Summerbell 2012[184]	Non-controlled study
Thibault 2010[185]	Non-controlled study
Thomas 2012[186]	Inappropriate participants
Trost 2008[11]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme

STUDY	REASON FOR EXCLUSION
Trost 2012[187]	Inappropriate participants
Vanderwall 2012[188]	Inappropriate participants
Van Stan 2013[189]	Non-controlled study
Vasquez 2008[190]	Non-controlled study
Verbestel 2014[191]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Watt 2014[192]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Whaley 2010[193]	Inappropriate participants
Wilken 2013[194]	Inappropriate participants
Williams 2009[195]	Non-controlled study
Witt 2012[196]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Yin 2012[197]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Zask 2012[198]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme
Zhou 2014[199]	Inappropriate outcomes – does not aim to improve implementation of a policy, practice or programme

Hunter New England Population Health

Direct Contact Details
Phone: (02) 4924 6477 Fax: (02) 4924 6490
Locked Bag 10, Wallsend NSW 2287
Email: PHEnquiries@hnehealth.nsw.gov.au
www.hnehealth.nsw.gov.au

NSW GOVERNMENT Health
Hunter New England
Local Health District

«Service» <DATE>
«Address1»
«Suburb» «State» «Postcode»

Dear Nominated Supervisor

CHILDCARE HEALTH SURVEY
INFORMATION FOR NOMINATED SUPERVISORS
Version 2, dated 08/08/2012

Over the past few years, your service has participated in the *Good for Kids. Good for Life* program and evaluation conducted by Dr John Wiggers from Hunter New England Population Health. The purpose of the project is to identify opportunities for Early Childhood Education and Care services to promote physical activity and healthy eating in children. The purpose of this correspondence is to thank you for participating in the program and evaluation to date, and to invite you to participate in a survey to evaluate the ongoing effectiveness of the healthy eating and physical activity programs being implemented over the next three years. While all childcare services will receive healthy eating and physical activity support over this period, the type of support and the order in which it is offered to services will be randomly determined.

Why is the research being done?
We understand that Early Childhood Education and Care services already have a number of systems and practices in place that are conducive to children developing healthy lifestyles. However, we would like to identify if there are additional ways to support childcare services to encourage children to consume healthy foods and drinks and participate in physical activity.

Who can participate?
All Nominated Supervisors of Early Childhood Education and Care services within the Hunter New England region will be invited to participate.

What will you be asked to do?
We will be contacting you via telephone in approximately two weeks to invite you to participate in a short survey, which can be conducted at a time convenient to you. The purpose of this survey is to ask you about the current policies and practices relating to healthy eating and physical activity in your service, and to update our records with any new service contact details. If you provide meals and snacks to children you will be also asked about your menu, so it would be helpful if you could have a copy of your menu from last week to refer to during the call. A copy of all the questions we will ask is included with this letter. It would be helpful if you could read through the items within the next two weeks, and if needed, talk to educators or parents, or review any service policies or guidelines to help you respond to the survey questions. This should also reduce the time of the telephone survey, which should take approximately 20-25 minutes to complete. The contact details of your service were previously obtained from the NSW Ministry of Health.

When we call, we will also ask your permission to conduct a telephone survey with the Preschool Room Leader from your service. The questions for the Room Leader relate specifically to the day-to-day healthy eating and physical activity practices for children aged 3 to 5 years. The telephone survey with Room Leaders will take approximately 10-15 minutes to answer and can be completed at a time convenient to the Room Leader and service. If you have more than one Preschool Room Leader, we will ask you to select the leader with the most recent birthday, and we will invite them to participate. Please discuss this with the appropriate Preschool Room Leader and pass on the enclosed Room Leader information statement if you are happy for us to approach them to participate in a telephone survey.

The second part of the research involves a site visit. Your service has been randomly selected from all Hunter Early Childhood Education and Care services to be invited to participate in a site visit. If you consent, up to two members of the research team will attend your service for a full day of operation. They will observe and record the daily routines and practices in relation to healthy eating and physical activity. This will include noting the foods and drinks that are available to children and staff throughout the day, the activity levels of children and staff members at various times of the day, and children's learning experiences related to healthy eating or physical activity. If available, we will also ask to look at any policies relating to healthy eating or physical activity that you may have. You will not be required to prepare anything or do anything differently on this day.

What are the risks and benefits of participating?
Participation in the telephone survey will allow the research team to tailor the support we can offer your service regarding healthy eating and physical activity policies and practices. We don't anticipate there will be any risk to you or your service from participation in the telephone surveys or the site visit.

How will your privacy be protected?
Any information provided during the telephone surveys and the site visit will be stored electronically in a secure facility. All information transferred electronically will be done in a file which is password protected. It will not be possible to identify individuals or services from any publication or presentation arising from the research.

What choice you do have?
Participation in this research is voluntary. Whether or not you and/or the Room Leader decide to participate in the telephone survey, or participate in a site visit, the decisions will not disadvantage you or your service in any way. If you do participate, you may withdraw from the research at any time without giving a reason, and you will have the option of withdrawing any information you have provided.

How will the information collected be used?
Information provided during the Nominated Supervisors telephone survey and the Preschool Room Leaders survey will be fed back to your service. A report summarising the results of the Childcare Health Survey across the region will be made available to your service following program completion. The summary report will not identify any individuals or children's services. Information provided during the site visit will be used in the development and evaluation of support strategies to help childcare services implement healthy eating and physical activity policies and practices. Data from the telephone surveys or the site visits may also be presented at scientific conferences, be published within scientific journals or form part of student theses, or provided to the NSW Ministry of Health. No other childcare service or organisation will be able to find out the results of your service and no individuals or children's services will be able to be identified in any report or publication by the

program. Over the three years of the program we will contact you periodically to invite you to participate in future telephone surveys.

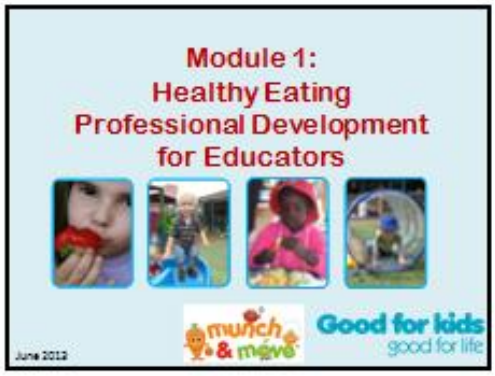
What do you need to do to participate?
If you would like your service to participate in the telephone surveys, please indicate this when our trained interviewer calls. Regarding participation in the site visit, please indicate on the enclosed consent form whether you do or do not consent to participate and return in the replied paid envelope provided. If there is anything that you do not understand, or you would like more information, please contact Rebecca Wyse on (02) 4924 6102.

Thank you for considering this invitation

Yours sincerely

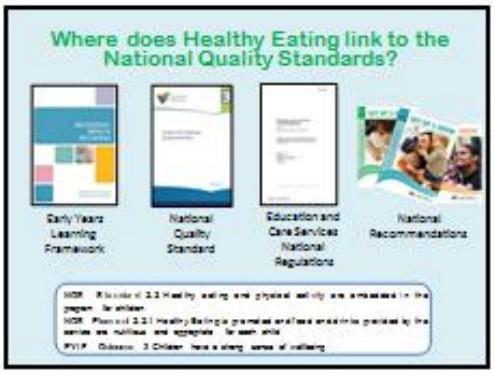
Dr John Wiggers
Director
Hunter New England Population Health

This project has been approved by the Hunter New England Human Research Ethics Committee of Hunter New England Health, Reference: 12/08/15/5.01. Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to Dr Nicole Gerrand, manager, Research Ethics and Governance, Hunter New England Human Research Ethics Committee, Hunter New England Health, Locked Bag 1, New Lambton NSW 2305, telephone (02) 49214950, email Nicole.Gerrand@hnehealth.nsw.gov.au

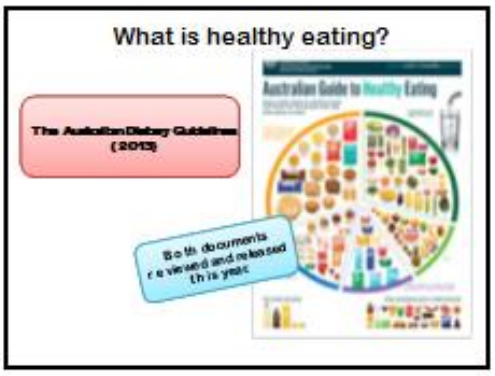

Module 1:
Healthy Eating
Professional Development
for Educators
munch & move
Good for kids
good for life
June 2013


Good for kids
Acknowledgement of Country
I would like to acknowledge the original custodians of this land and pay my respects to the Elders both past, present and future for they hold the memories, the traditions, the culture and hopes of Aboriginal Australia
www.goodforkids.nsw.gov.au


Healthy Eating Overview
Why is healthy eating important for children?
Foods for the lunchbox
Monitoring lunchboxes & providing feedback to families
Learning experiences
Being a positive role model
Group discussion


Where does Healthy Eating link to the National Quality Standards?
Early Years Learning Framework
National Quality Standard
Education and Care Services National Regulations
National Recommendations


Why is healthy
start from an early age!
tant?
For Good Health, including:
To grow and develop
Improve concentration at preschool
Be bright and active
To prevent:
Tooth decay
Constipation
Iron deficiency
Overweight and obesity later in life (including the associated diseases diabetes, heart disease and cancer)


What is healthy eating?
The Australian Dietary Guidelines (2013)
Australian Guide to Healthy Eating
Both documents reviewed and released this year


Sometimes foods
Sometimes foods have little nutritional value e.g. vitamins, minerals or fibre
Usually high in fat, salt and sugar
Children have small stomachs - so make the most of the space and fill it with nutritious foods!
60% of all preschool children have more than one serve of sometimes foo in their lunchboxes each day*

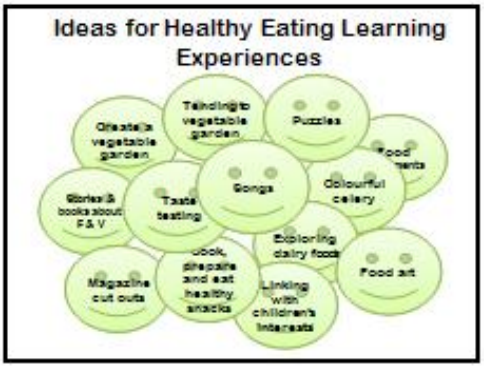

Drinks
Water is the best drink for children
Children learn to drink water through:
- Early, positive experiences
- Play based water fun!
Sometimes it can be tricky to share this information with families...


Why avoid sweetened drinks?
Expensive
Tooth decay
Can contain caffeine
Excess weight gain
Fussy eating
Fruit juice - contains some vitamins, but is high in sugar and lacks the fibre found in whole fruit


Milk Mythbusters!
?? True or False ??
A. Children over the age of 2 can have reduced fat milk? True
B. Reduced fat milk has the same amount of calcium as full cream? True


Only drinks for kids in care
Water & Plain Milk
How can we make sure that water and plain milk are the only drinks in care?


National Quality Standard - Element 2.2.1
Healthy Eating is promoted and food and drinks provided by the service are nutritious and appropriate for each child

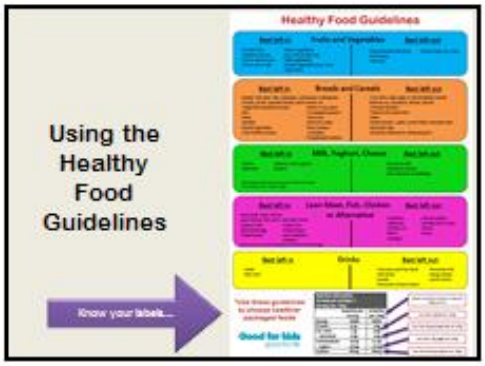

Ideas for Healthy Eating Learning Experiences
Talking to vegetable garden
Puzzles
Create a vegetable garden
Songs
Colourful celery
Taste testing
Stories & books about F & V
Exploring dairy foods
Food art
Magazine cut outs
Linking with children's interests


Healthy eating learning experiences
How can we ensure healthy eating learning experiences occur at least twice per week?

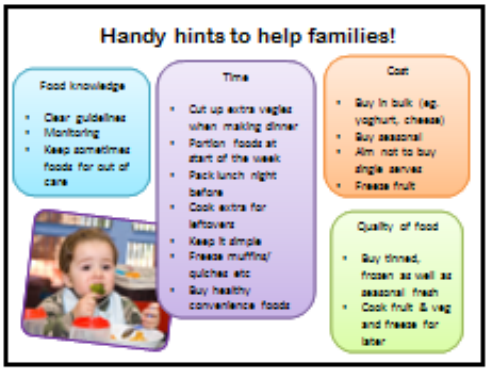

Foods for the lunchbox
Include all 5 food groups –
Mostly breads and cereals and vegetables
Some dairy
One piece of fruit
One serve of meat/eggs/beans
Pack water to drink
Keep sometimes foods for sometimes


Why is talking about lunchboxes with families important?


ACTIVITY!
USING FOOD GUIDELINES


Using the Healthy Food Guidelines
Healthy Food Guidelines
Know your labels...

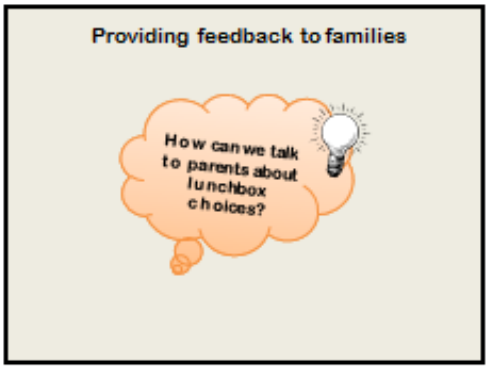

What challenges do families face when packing a healthy lunchbox?
Transport
Cost
Time
Advertising
Misleading "health" foods
Access to fresh food
Food knowledge confused by advertising and health claims


Handy hints to help families!
Food knowledge
Clear guidelines
Monitoring
Keep sometimes foods for out of care
Time
Cut up extra vegies when making dinner
Portion foods at start of the week
Pack lunch night before
Cook extra for leftovers
Keep it simple
Freeze muffins/ quiches etc
Buy healthy convenience foods
Cost
Buy in bulk (eg. yoghurt, cheese)
Buy seasonal
Aim not to buy single serves
Freeze fruit
Quality of food
Buy tinned, frozen as well as seasonal fresh
Cook fruit & veg and freeze for later


Best left in or best left out?
Low in fat, salt & sugar
High in sugar
High in sugar
High in fat & salt
Low in fat, salt & sugar
High in saturated fat & sugar


Helping families to pack healthy lunchboxes for their children
Provide families with nutrition guidelines based on national recommendations
Monitor and provide positive and helpful feedback to families
Encourage and only provide water and age-appropriate plain milk

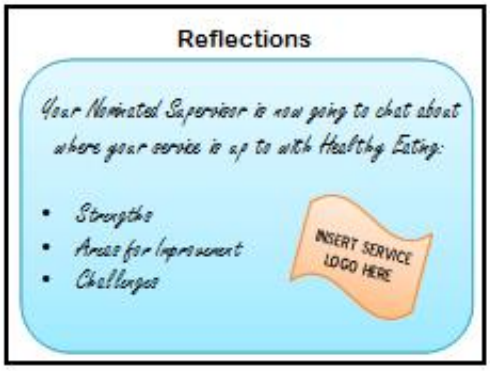

Lunchboxes: a whole of service approach
Engaging families is key


Providing feedback to families
How can we talk to parents about lunchbox choices?


What are other services doing?
Lunchbox notes
Chatting to parents & carers at
Lunchbox of the week!
Vegie eater of the day!
Remember these changes can take time to get used to


Being a positive role model
Only eat healthy foods in front of children
Make positive comments about healthy eating and healthy foods every day
Think about which image sends a positive message?

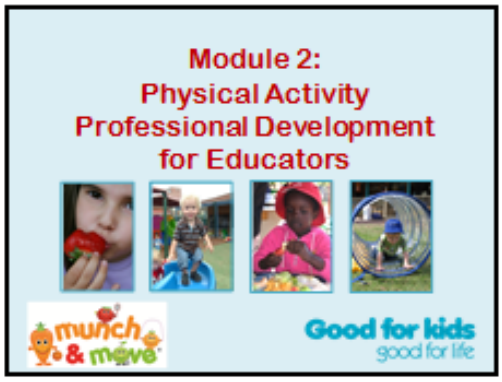

Happy mealtimes
Sit with children and engage in conversation
Involve children eg. setting the table
Respect each child's appetite
Talk about different foods and how they help our bodies grow
Remember not to use 'sometimes' foods as a reward


Reflections
Your Nominated Supervisor is now going to chat about where your service is up to with Healthy Eating:
Strengths
Areas for Improvement
Challenges
INSERT SERVICE LOGO HERE

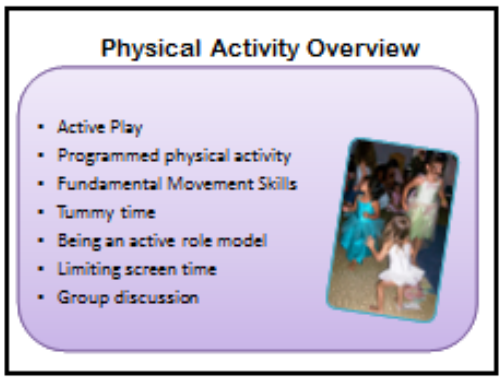

What is currently happening?
Is there anything you would like to change?
Our service approach to Healthy Eating
What needs to happen to get this change?
What support do you need?

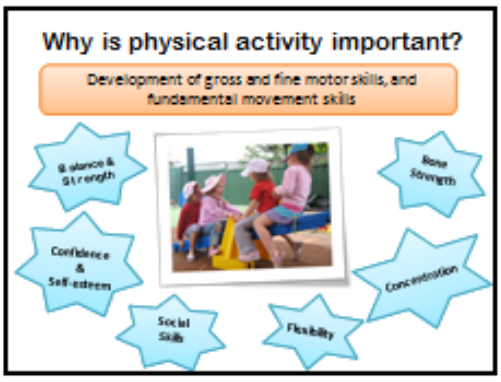

Good for Kids Support from here

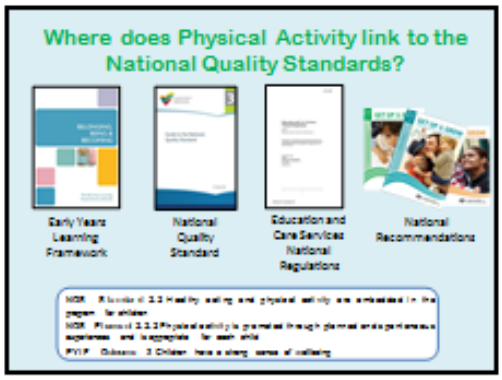

Thank you!

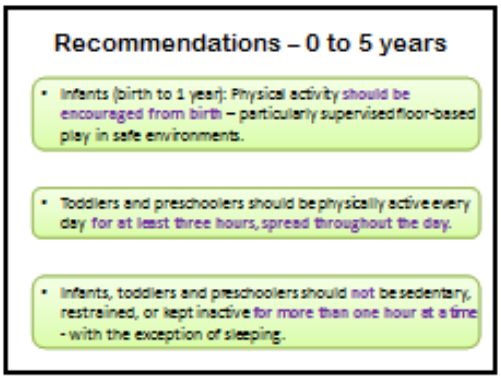

Module 2:
Physical Activity
Professional Development
for Educators
munch & move
Good for kids
good for life


Good for kids
Acknowledgement of Country
I would like to acknowledge the original custodians of this land and pay my respects to the Elders both past, present and future for they hold the memories, the traditions, the culture and hopes of Aboriginal Australia
www.goodforkids.nsw.gov.au


Physical Activity Overview
Active Play
Programmed physical activity
Fundamental Movement Skills
Tummy time
Being an active role model
Limiting screen time
Group discussion


Why is physical activity important?
Development of gross and fine motor skills, and fundamental movement skills
Bone Strength
Confidence & Self-esteem
Concentration
Social Skills
Flexibility


Where does Physical Activity link to the National Quality Standards?
Early Years Learning Framework
National Quality Standard
Education and Care Services National Regulations
National Recommendations


Recommendations – 0 to 5 years
Infants (birth to 1 year): Physical activity should be encouraged from birth – particularly supervised floor-based play in safe environments.
Toddlers and preschoolers should be physically active every day for at least three hours, spread throughout the day.
Infants, toddlers and preschoolers should not be sedentary, restrained, or kept inactive for more than one hour at a time - with the exception of sleeping.


Supporting daily tummy time
Best practice
from birth
every day
short periods
increases with age and ability
supervised
An important building blockfor rolling, sitting, crawling & standing


Time for active play
Children 1-5 years of age should spend at least 25% of their time at the service being physically active!
In 6 hours care = 90 mins
In 8 hours care = 2 hours

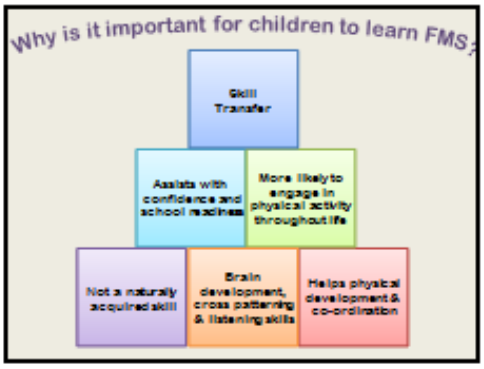

Active play includes
Intentionally taught, educator led
Child initiated
What do these types of active play look like at this service?
How much time do you spend on both?

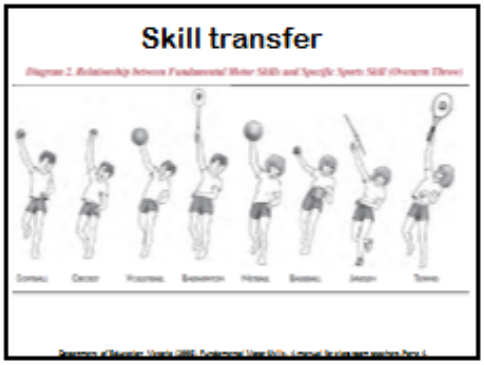

National Quality Standard - Element 2.2.2
Physical activity is promoted through planned and spontaneous experiences and is appropriate for each child
to participate in physical activity


Ideas for Intentionally Taught Active Play
Transitions
Clean up Time
Age & ability appropriate tasks
Utilising existing equipment
Cultural games
Interest Based Activities
Obstacle courses
Wombat Wobble etc...
Remove chairs from activities
Outdoor equipment inside on wet days
Music & Movement
Yoga & Zumba
Old favourites e.g. Tiki, what's the time Mr Wolf?
Ball games

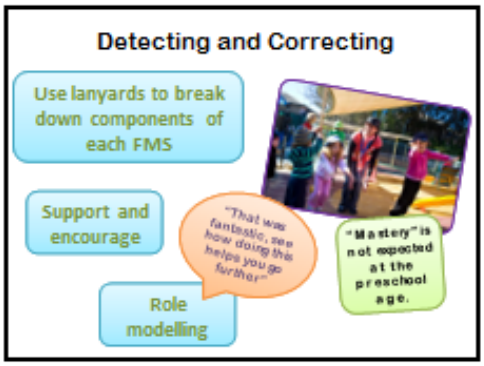

Have you heard of Fundamental Movement Skills (FMS)?
This is a relatively new term - some of you may not be familiar with it


Fundamental Movement Skills are...
a specific set of movement skills
building blocks for more specialised and complex skills needed throughout a child's life.
1. Stability skills
2. Locomotor skills
3. Manipulative skills

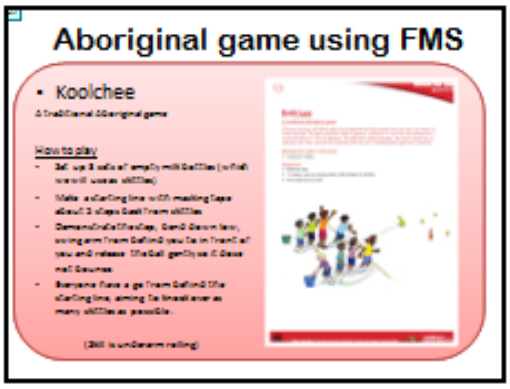

Why is it important for children to learn FMS?
Skill Transfer
Assists with confidence and school readiness
More likely to engage in physical activity throughout life
Not a naturally acquired skill
Brain development, cross patterning & listening skills
Helps physical development & co-ordination


Skill transfer

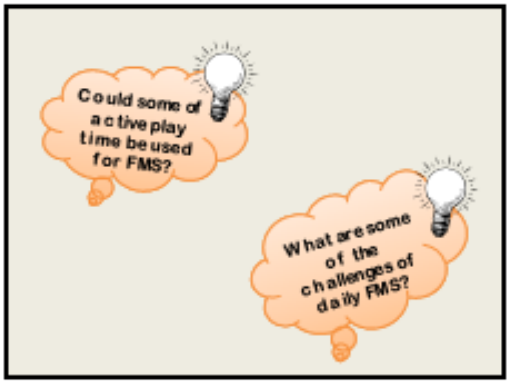

Helping children to develop Fundamental Movement Skills
Select an FMS skill from the lanyards
Demonstrate
Detect & Correct
Have FUN!!


Detecting and Correcting
Use lanyards to break down components of each FMS
Support and encourage
"That was fantastic, see how doing this helps you go further"
"Mastery" is not expected at the preschool age.
Role modelling

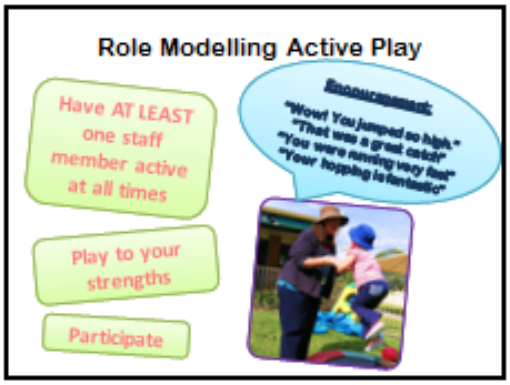

Let's Practice!
Using the Lanyards

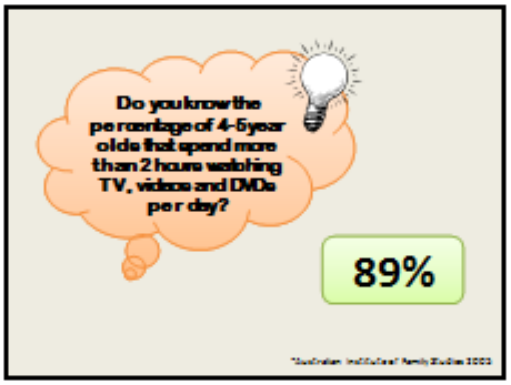

Aboriginal game using FMS
Koolchee
How to play


5 Days of
Fundamental Movement Skills
We recommend Educators intentionally teach activities to develop fundamental movement skills each day
Group or circle time
Games
A specific skill experience
Music
Transition activity


Could some of active play time be used for FMS?
What are some of the challenges of daily FMS?


Need help with FMS?
Use the Resources
Munch & Move Manual
Practice, Practice, Practice


Role Modelling Active Play
Have AT LEAST one staff member active at all times
Play to your strengths
Participate
Encouragement:


Do you know the percentage of 4-5 year olds that spend more than 2 hours watching TV, videos and DVDs per day?
89%

Small Screen National Recommendations

Children younger than 2 years of age should not spend anytime watching television or using other electronic media.

*Department of Health and Ageing 2009

Small Screen National Recommendations

For children 2-5 years of age, sitting and watching television and the use of other electronic media should be limited to less than 1 hour a day.

Infants, toddlers & pre-schoolers should not be sedentary, restrained or kept inactive for more than one hour at a time – with the exception of sleeping.

*Department of Health and Ageing 2009

Limiting Screen time

Children who spend more than 2 hours each day in small screen time are more likely to:

TRIPLE THREAT!!

- Eat while watching
- Have sedentary behaviours
- Be exposed to food advertising

Behaviours that start in childhood track into adulthood

How to limit screen time for children

Choose either educational or active programs less than weekly

*for over 2 years old

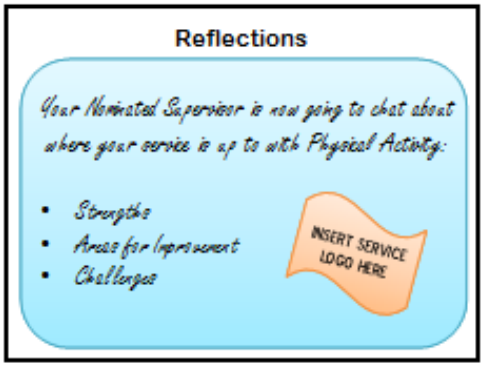
Quiet play: Art, craft, drawing & puzzles

Quiet time: Reading, listening to stories & looking at books

Munch & Move Page 157 | Get up & Grow Page 71 | EYLF Page 41

Resources to help with SSR

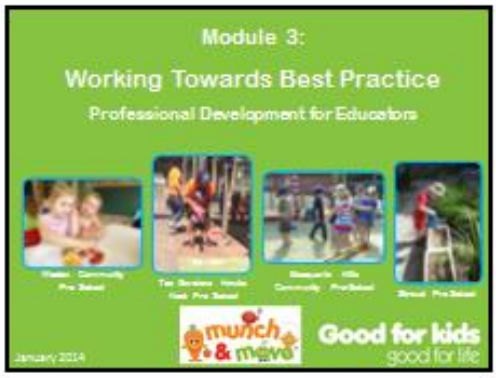
- Get up & Grow brochures
- Munch and Move factsheet
- Email/newsletter snippets


Reflections
Your Nominated Supervisor is now going to chat about where your service is up to with Physical Activity:
Strengths
Areas for Improvement
Challenges
INSERT SERVICE LOGO HERE

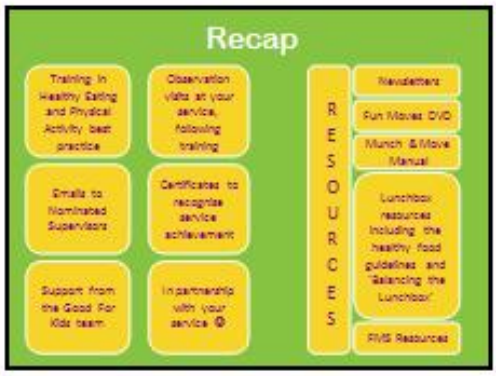

What is currently happening?
Is there anything you would like to change?
Our service approach to Physical Activity and Small Screen Recreation
What needs to happen to get this change?
What support do you need?


Where to from here?


Thank you!
THANK YOU


Module 3:
Working Towards Best Practice
Professional Development for Educators
munch & move
Good for kids
good for life
January 2014


Good for kids
Acknowledgement of Country
I would like to acknowledge the original custodians of this land and pay my respects to the Elders both past, present and future for they hold the memories, the traditions, the culture and hopes of Aboriginal Australia
www.goodforkids.nsw.gov.au


Recap
Training in Healthy Eating and Physical Activity best practice
Observation visits at your service, following training
Emails to Nominated Supervisors
Certificates to recognise service achievement
Support from the Good For Kids team
In partnership with your service
RESOURCES
Newsletters
Fun Moves DVD
Munch & Move Manual
Lunchbox resources including the healthy food guidelines and 'Balancing the Lunchbox'
FMS Resources


Good For Kids Success
In partnership with you, from 2007 – 2010 the Good for Kids program has:
Decreased childhood obesity*
This success is a result of services adopting evidence based BEST PRACTICE
Winner of numerous national awards including the National Preventative Health Award
Congratulations - you have played a part in this success!


Success of Services – Healthy Eating


Success of Services – Physical Activity

Adoption of best practice has a positive impact on children

Changes in children's behaviours reported by services	Potential long term effects
• Improved concentration • Willingness to try new vegetables • Increased confidence and ability with FMS • Improved behaviour • More settled at rest time • Drinking water • Knowledge of "everyday" foods and "sometimes" foods.	• Establishment of healthy eating for life • Reduced risk of chronic disease such as obesity, heart disease, Type II diabetes. • Life long enjoyment of physical activity & sport • Life long enjoyment of eating healthy foods

Healthy Eating Best Practice

Good for kids
good for life

Importance of Role Modelling

BEST PRACTICE

Educators make daily positive comments about healthy eating at meals and snack times

Educators never consume sweets, salty snacks or sugary drinks in front of children

Healthy Eating Learning Experiences

BEST PRACTICE

Healthy eating learning experiences are planned at least twice per week

From Veggie patch to the table: Simple Pre-School

Healthy Drinks

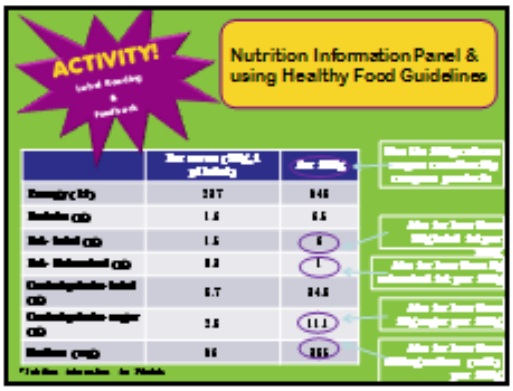
BEST PRACTICE

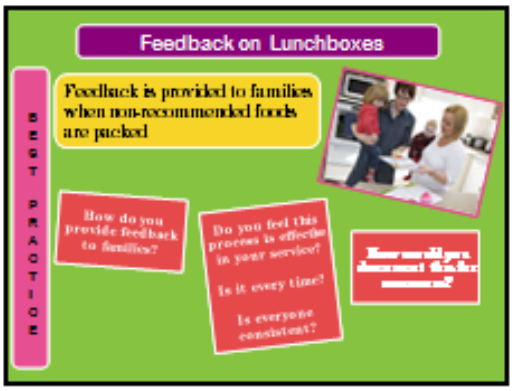
Only water and ages-appropriate milk are provided by the service

Healthy Lunchboxes

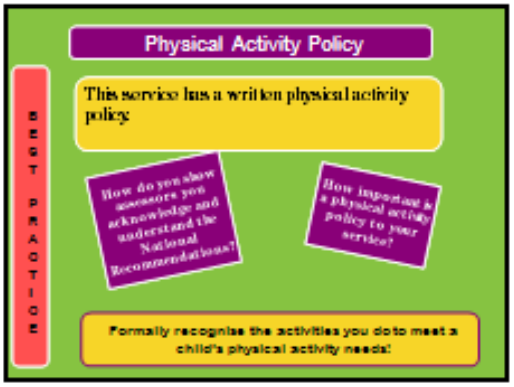
BEST PRACTICE

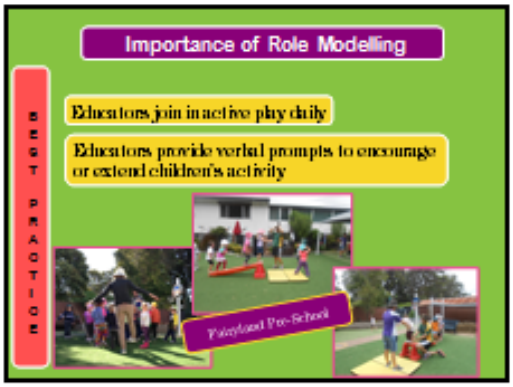
Lunchboxes are monitored daily using guidelines


ACTIVITY!
Nutrition Information Panel & using Healthy Food Guidelines

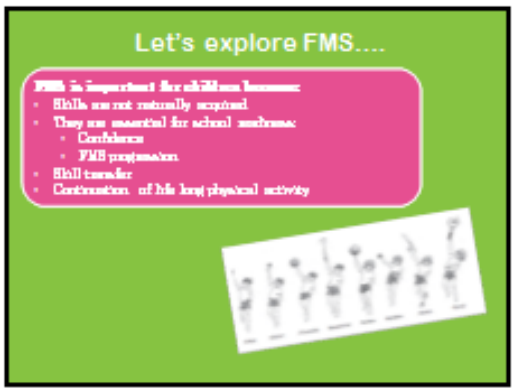

Feedback on Lunchboxes
BEST PRACTICE
Feedback is provided to families when non-recommended foods are packed
How do you provide feedback to families?
Do you feel this process is effective in your service?
Is it every time?
Is everyone consistent?

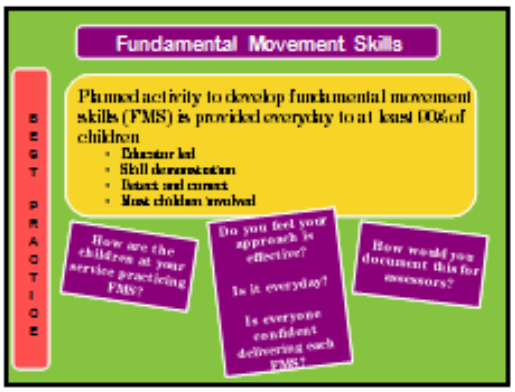

Physical Activity Best Practice
Good for kids
good for life


Physical Activity Policy
BEST PRACTICE
This service has a written physical activity policy
How do you show assessors you acknowledge and understand the National Recommendations?
How important is a physical activity policy to your service?
Formally recognise the activities you do to meet a child's physical activity needs!


Importance of Role Modelling
BEST PRACTICE
Educators join in active play daily
Educators provide verbal prompts to encourage or extend children's activity
Fairyland Pre-School

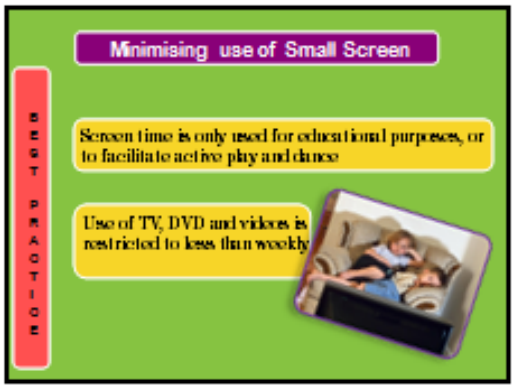

Active Play
BEST PRACTICE
Educator led activity is provided daily and at least 75% of children are active
Aminul Salati Riverview Early Learning Centre


Let's explore FMS....
FMS is important for children because:
Skills are not naturally acquired
They are essential for school readiness:
Confidence
FMS progression
Skill transfer
Continuation of life long physical activity


Fundamental Movement Skills
BEST PRACTICE
Planned activity to develop fundamental movement skills (FMS) is provided everyday to at least 80% of children
Educator led
Skill demonstration
Detect and correct
Most children involved
How are the children at your service practicing FMS?
Do you feel your approach is effective?
Is it everyday?
Is everyone confident delivering each FMS?
How would you document this for assessors?


ACTIVITY!
FMS
Fundamental Movement Skills- Detect & Correct
Wyee Child Care Centre
Knowing Kirsty


Small Screen Technology Best Practice
Good for kids
good for life


Minimising use of Small Screen
BEST PRACTICE
Screen time is only used for educational purposes, or to facilitate active play and dance
Use of TV, DVD and videos is restricted to less than weekly


Good for Kids support from here
One more visit
Intensive support ends March/April 2014
We will be moving on to support another group of services
Evaluation
Newsletters
Good for Kids always available for questions & resources
www.goodforkids.nsw.gov.au
How to contact us:
1300 657 197
Website

How do we continue best practice?

Good for kids
good for life

...in your service

- Programming – daily FMS
- QIP – reflect & progress
- Staff meeting agenda – Munch & Move best practice
- Munch & Move in new educator orientation
- Policies
  - healthy eating,
  - physical activity
  - small screen technology
- Resources
- Munch & Move champion

Good for kids
good for life

...your role

- Munch & Move manual
- Reflect on practice and keep ideas fresh
- Check out the GFK website – under going a facelift!
- Keeping families informed of our program & childs progress
  - Newsletters & emails
  - Orientation
  - New recipes
  - Fact sheets
  - Displays
  - Photos of children involved in healthy eating or physical activity learning experiences
- Share GFK information across team

Reflections

Your Nominated Supervisor is now going to chat about how your service will continue best practice:

- Strengths
- Areas for improvement
- Challenges
- Next steps to continue

INSERT SERVICE LOGO HERE

Thank you

Academic Detailing Session

Fundamental Movement Skills (FMS)

Terminology

Academic Detailing sessions should be referred to as *the practical* in discussions with service representatives. This is to encourage the pairing of Educator Training sessions with associated Academic Detailing sessions

Goal

The purpose of an academic detailing session is to observe the staff completing a task, and then to provide tailored feedback. Provide encouragement and advice where possible, but make sure you give staff control of the situation

1. Support Officer observation of one FMS or active play time session

Observation and feedback of a FMS session OR active play time session. This session could be conducted before educator training – the intention of this session is to observe current practice, in order to better equip the support officer in discussions with the service staff. The support office would book a time to come along to an existing FMS or active play session. Consider role modelling behaviours (joining in active play, positive reinforcement) and skill development (demonstration of skills, correcting technique) when observing the session. Take note on the reaction of children to these – do more children join in when staff take an active role? How does the children's activity level change when staff lead an activity, vs free play?

2. Reflect on findings with room leader and educators

After the session the support officer and staff should have a reflective discussion about things they do well, and things they think they can improve upon. This may be on a one-on-one basis, or as a group and could be an informal process. This info would then be communicated to the Nominated Supervisor and used to inform QIP ASSIST action plans.

3. Support Officer to observe Room Leader (and other staff if possible) conduct an FMS session

See: Items to Consider when Planning and Evaluating an FMS Session.
See: Running an FMS Session Checklist

Clarify definition of FMS with educators.

The support officer should observe the Room Leader or other staff member run an FMS session – this session should utilise the skills learned in educator training, and put the above feedback into action. This could involve the support officer developing a plan for the session in conjunction with the Room Leader (this may be an informal process). The session should be run at a time where the support officer can be present. Encourage other staff to be involved if possible

4. Reflect on session with Room Leader and provide feedback

The support officer would then make time to reflect and provide feedback to the Room Leader after the session (this may be an informal process). The nominated supervisor would then be informed of the outcomes and how they might be used to inform QIP ASSIST planning

5. Actions arising from Session

Any actions arising from this session should be recorded and provided to the service in writing (for example by email)

Academic Detailing Session

Feedback and monitoring of Lunchboxes

Terminology

Academic Detailing sessions should be referred to as *The Practical*, in discussions with service representatives. This is to encourage the pairing of Educator Training sessions with associated Academic Detailing sessions

Goal

The purpose of an academic detailing session is to observe the staff completing a task, and then to provide feedback. Provide encouragement and advice where possible, but make sure you give staff control of the situation

Best Practice

- This service monitors lunch boxes every day
- This service monitors lunch boxes daily against guidelines
- This service provides feedback to parents every time a non-compliant food is packed
- Service staff never consume sweets, salty snacks or sugary drinks in front of the children
- Service staff daily make positive comments about healthy eating at meals and snack times

1. Support Officer observation

At this stage, staff have attended the staff training workshop part 1 and have learned some new skills to implement at their service. Clarify any key points and answer any questions about lunchbox monitoring before observing.

The support officer will book a time with the Room Leader to observe a lunchtime session.

The support officer should spend about 10 minutes making notes of lunch box contents and observing staff behaviours (feedback provision, monitoring foods, positive comments etc).

If available, bring along a copy of nutrition guidelines for parents. Some points to consider

- Do staff eat with children?
- Do staff consume sweets, salty snacks, or sugary drinks in front of children?
- Do they monitor of content of lunchboxes against guidelines (daily)?
- Is there a process for providing feedback to parents (every time)? Verbal or written?
- Do they provide positive food comments?

2. Reflect on findings with Room Leader and educators

During lunch (if possible), provide constructive feedback on any processes

- Discuss with staff what lunchbox contents they considered *sometimes foods*
  - Resolve any discrepancies in definitions of *sometimes foods*

Sometimes Foods
Foods best left in/out of the lunchbox
Discretionary foods

2013 Dietary Guidelines: foods and drinks not necessary to provide the nutrients the body needs.

- Are staff monitoring against guidelines – refer back to guidelines where possible
- Was feedback to parents provided? What form? If verbal feedback is to be provided, do they have a process in place to ensure feedback is passed on?
- Encourage positive food comments and good role modeling behavior (i.e. staff lunches, snacks)

3. Support Officer to provide resources and further assistance
This occurs at any point where the educators are happy to receive more detailed feedback.

This may mean
- Providing advice on the monitoring or feedback process
- Assisting with the process of providing feedback to families – for example providing resources such feedback slips, or with the development of guidelines
- Role play for discussing lunchbox contents with families
- Reviewing existing lunchbox guidelines

Try to tie feedback to guidelines for parents where possible

a) *If the service* does not have any guidelines
    i. Emphasise the benefits of having guidelines. Provide example guidelines or help them write their own
    ii. Refer to *sometimes foods*, discuss definitions
b) *If they have guidelines*
    i. Are staff following these guidelines? Talk about what you could do to make following guidelines easier – e.g. feedback slips
    ii. Are guidelines specific? Are parents aware of guidelines? Are they able to follow these?

Other considerations:
a) Think about what other resources you can provide. For example feedback slips, Balancing the Lunchbox resource
b) Are there any other barriers to lunch box monitoring? E.g.
    - Are staff busy during this time? What can you do to work around this?
    - Lack of knowledge around appropriate and inappropriate foods
    - Different values/beliefs
    - Belief that it is not their role to monitor lunches
    - Challenging parents
    - Any others?

4. Actions arising from Session
Room leaders would be encouraged to identify areas of practice change they wish to implement and this info would then be communicated to the NS and used to inform QIP Assist action plans. Note that any actions developed from this session should be recorded and provided to the service in writing (for example by email) following the session.

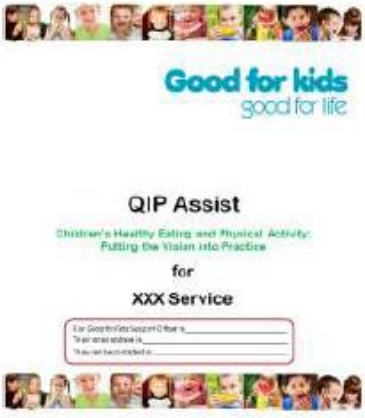

I'm having a rainbow for dinner


Healthy Food Guidelines
Best left in
Fruits and Vegetables
Best left out
Best left in
Breads and Cereals
Best left out
Best left in
Milk, Yoghurt, Cheese
Best left out
Best left in
Lean Meat, Fish, Chicken or Alternative
Best left out
Best left in
Drinks
Best left out
*Use these guidelines to choose healthier packaged foods
Good for kids
good for life


Good for kids
good for life
Date:
Let's work together to make it easier for children to make healthy choices!
There were lots of great choices in this lunchbox however
do not fit with our service's nutrition guidelines.
For some healthier lunchbox ideas, ask an educator
or go to the Good for Kids website.
www.goodforkids.nsw.gov.au/parents/handy_info


BALANCING
THE LUNCHBOX
lunchbox ideas for children 1-5 years
Good for kids
good for life


munch & move
Eat more Fruit & Vegetables
Get active each day
Turn off the TV & computer and get active
Choose water as a drink
Encourage & support Breastfeeding
Choose healthier snacks


Good for kids
good for life
QIP Assist
Children's Healthy Eating and Physical Activity
Putting the Vision into Practice
for
XXX Service


Australian Guide to Healthy Eating

Good for kids
good for life

Sample physical activity and small screen time policy

(*Insert early childhood service name*) recognises the importance of physical activity for young children.

Aim

The purpose of this policy is to ensure that children in care are supported and encouraged to engage in active play, develop fundamental movement skills and limit small screen recreation time in line with current recommendations.

Rationale

Adequate physical activity promotes bone health, is protective against obesity and is beneficial for child social, psychological and fundamental movement skill development. Through active movement a child becomes stronger, coordinated and can explore the capabilities of their body. For babies, providing opportunities to move freely helps to develop their senses, develop good posture, strength and balance, and teaches them about their bodies and the world around them. The time children are at the service may be their best opportunity for active play each day. Limiting time spent in front of the TV, computer or video games also means that children will have more hours available for active, creative or outdoor play.

Fundamental movement skills are the building blocks for more complex and specialised skills that children need throughout their lives so they can competently and confidently play different games, sports and recreational activities. Fundamental movement skills include running, catching, jumping, kicking, galloping, leaping, hopping, dribbling a ball, side-stepping, striking a ball, underarm rolling and over arm throwing.

Relevant standards and recommendations

The National Quality Standards

Standard 2.2: *Healthy Eating and Physical Activity are embedded into the program for children*

Element 2.2.2:

Physical Activity is promoted through planned and spontaneous experiences and is appropriate for each child

Good for kids
good for life

Balls

	Fun games to play using balls
Catching	
Underarm rolling	
Kicking	
Throwing Bowls	
Skills/Fun Circuits	

Good for kids
good for life

EDITION NO. 3 SEPTEMBER 2013

What's in this issue?

Program Manager's Update

We would like to say a big thank you to all services for your enthusiasm and participation in the *Munch & Move* program so far this year. *Good for Kids* Support Officers are looking forward to continuing to work with you over the coming months to achieve healthy eating and physical activity best practice.

Did you know? Children do not automatically know how to throw, kick, run and jump as part of their growth and development. These are known as fundamental movement skills. Like any other skill, children need to be taught and given opportunities to practice these skills as part of whole of child development.

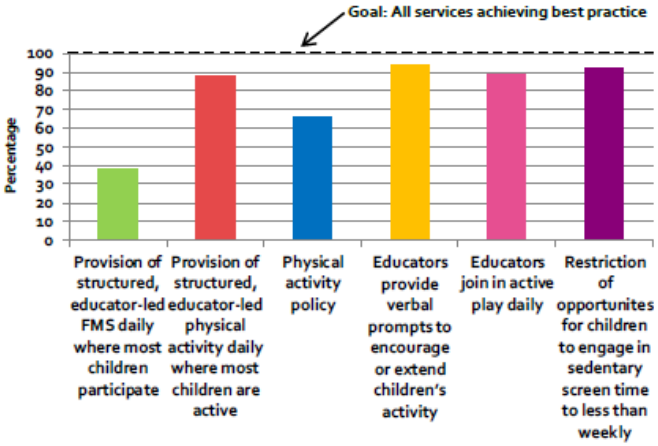
Over the last few months, Support Officers have been excited to hear about the work of local services in the area of fundamental movement skills. Our September newsletter edition features a handful of these services and their fresh and innovative approaches to teaching fundamental movement skills to children each day. We'd love to hear from your service too about the excellent work you are doing in the areas of healthy eating and physical activity. Why not drop us a line - we'd love to share your story in our upcoming newsletters.

Warm regards,

Jannah Jones
Good for Kids. Good for Life.
Program Manager
Early Childhood Education and Care

Physical Activity Best Practice

Are you interested in how other services in your area are progressing with physical activity best practice? Almost 40% of services are providing educator-led fundamental movement skill (FMS) sessions daily where most or all children participate. Read on for ideas on how to incorporate structured FMS daily into your program daily to meet best practice.



Contact your Support Officer for help to achieve best practice!

Looking for more info? Check out the *Good for Kids* website www.goodforkids.nsw.gov.au or phone 1300 657 197

Daily Fundamental Movement Skills Sessions at Fairyland Preschool

Fairyland Preschool at Barnsley programs fundamental movement skill (FMS) sessions for 15-20 minutes every day. *Good for Kids* Support Officer Tracey recently visited Fairyland and was able to see one of these fantastic sessions take place.

The sessions commence with warm ups and stretching and are often led by Tim (an educator who loves getting active) however all educators join in the fun. After warming up, children are divided into 3 groups:

Soccer – Children stand between 2 cones and kick a ball into a set of goals

Hopscotch – Children line up and use the hopscotch markings to hop through

Jumping – Children line up and take turns jumping over hoops placed on the ground in a row.

Each educator firstly demonstrates the skill to their group and then goes on to detect and correct as children practice the skills. There are always lots of positive comments and encouragement! Educators always make sure that all children are involved in these activities and also assist those children who need a little extra help. Tim commented "The most important thing is that all children participate in structured physical activity for 15-20 minutes every day and most importantly HAVE FUN!"

Get to know a *Good for Kids* Support Officer

My name is: Tracey Findlay

My favourite vegetable is: Pumpkin & Rocket (lettuce)...I couldn't choose just one and these two go great together in a salad!

What I like to do to get active is: Roller skating has always been my favourite form of physical activity for as long as I can remember

The one word that describes me best is: Positive, the glass is half full!

If I could go anywhere in the world, I would go to: Spain, I'm looking forward to soaking up the culture and experiencing some delicious food.

What I love most about being a *Good for Kids* Support Officer: Having the opportunity to work with educators in their setting and sharing their enthusiasm for making positive changes to children's healthy eating and physical activity routines. Knowing these children will grow up healthier for the work we are doing together is very rewarding.

Looking for more info? Check out the *Good for Kids* website www.goodforkids.nsw.gov.au or phone 1300 657 197

Fundamental Movement Skill Quick Tips!

The *Good for Kids* team has recently developed a resource to support educators in teaching fundamental movement skills to children. ***'Getting started with Fundamental Movement Skills'*** provides quick instructions for each skill using child-friendly language. There are plenty of handy tips and game ideas too!

Ask your Support Officer if you would like a copy!

The 5 Days of Fundamental Movement Skills

Teaching fundamental movement skills (FMS) to children every day can often be a challenge. To help make this simpler and less daunting, we have mapped out what this could look like in your service over one week.

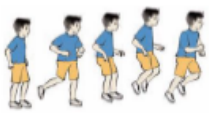
Day 1: Music and movement: **"Let's all move together"** Play this song off the *Munch & Move* music CD, or download it from the *Munch & Move* website. Join in the actions with the children and show them how to jump, gallop, leap and hop to the music. Perhaps practice each of the skills together before starting the song, especially if children aren't familiar with the actions.

Day 2: Transition: Encourage the children to side slide to the door, perhaps draw a line, put down some masking tape or there may already be a line they can use to guide their side sliding. Be sure to demonstrate the skill and join in the fun!

Day 3: Group game: Play a game of **"What's the time Mr Wolf?"** this gives children the opportunity to practice the skill of running. Try different skills where children take a hop, jump or leap forward instead of a step.

Day 4: Rainy day activity: Practice overarm throwing inside by using a scarf or bean bag. Set up buckets, hoops or targets on the wall. Show children how to throw correctly and try to aim for the target.

Day 5: Group game: At the start or end of outdoor play, practice the stability skills (stretching, bending, twisting and/or balancing) by playing a game of "Simon says". For example, "Simon says touch your toes" "Simon says do windmills with your arms". See page 120-122 of the *Munch & Move* manual for more suggestions.



Looking for more info? Check out the *Good for Kids* website www.goodforkids.nsw.gov.au or phone 1300 657 197

Programming FMS and Communicating with Families at Merriwa Pre-school

A few words on the challenges of programming fundamental movement skills (FMS) and communicating with families from Merriwa Pre-School's Nominated Supervisor, Leah Folpp:

"Educators have struggled to reflect children's progress and competence with set skills to our families. We have discovered, with the support from Good for Kids, that increased intentionality and teacher-led experiences can create a platform for documentation and extension of skills and interests. Our outdoor programme is evolving constantly and has been divided into sections (manipulative, locomotor and stability skills) to ensure that we touch on each area of development, there is also an area for spontaneous experiences..."


A Daily Reflection
2013-08-14
Building Our Way to Great Balance

The service has found a way to communicate the FMS programme with families using highly visual materials such as the Daily Reflection (as pictured left) and also display their outdoor programme outside for all families to view. "We have an allocated staff member to drive the programme forward... This is a steep learning curve for us all as we examine our own techniques. We have been working on a plan to increase the permanency of the equipment- this has been successful as we incorporate more natural provisions."

FMS Stations at Wyee Child Care Centre

There is plenty happening at Wyee Child Care Centre in the way of fundamental movement skills (FMS)! The service makes the most of their fantastic outdoor area by setting up 4 or 5 FMS stations in a row. Children move through each station one at a time and once they reach the end they run back to the start. These structured activities usually happen at the start of active play time as educators feel it is easier for children to focus on the activities before free play time begins. The FMS equipment remains set up during free play to allow children to continue to practice their FMS, if they choose. Nominated Supervisor Peta Rhodes comments *"We love these structured fundamental movement skill activities, we see the children improving their skills almost daily. The children work well together and this way we can ensure every child is physically active every day."*

Looking for more info? Check out the *Good for Kids* website www.goodforkids.nsw.gov.au or phone 1300 657 197

```
TITL  0         supervis1       CATI                 7     NAME
NOLAB
MODULE  SUBMODUL
Nominated Supervisors
************************ TITLE ITEM
************************************
TIME  0         t_start 1
LABEL
MODULE  SUBMODUL
This records Duration to Current point
Starting Time
****************** GET DURATION ITEM
************************************
LINK  1         Program 1       QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL        3
T_start ne .
Items in external dataset
DATACATI.CONFID              Program
DATACATI.CONFID              prog_num
DATACATI.CONFID              fullname
Links to external database
***************** LINK TO EXTERNAL DATASET ITEM
***************************
CHCE  1 2       service 4                     _MAKE_
LABEL
MODULE  SUBMODUL
Program gt ' '
Hello, my name is ^_INTVR_^ and I'm from Hunter New England Local
Health District.

Is that ^fullname^?
1       Yes
2       No
AS available
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 3       service22                     _MAKE_
LABEL
MODULE  SUBMODUL
service=2
I'm sorry, I have this number as ^fullname^?
Has your childcare centre ever been known by that name?
1       Yes
2       No
3       Not a childcare centre
AS available
***************** SINGLE CHOICE - CATI VERSION
***************************
INFO  1         service63
NOLAB
MODULE  SUBMODUL
service2=3
I'm sorry to trouble you, I must have the wrong number

Thanks for your time.
****************** INFORMATION SCREEN ITEM
*******************************
```

```
OPEN  1 200     service35
LABEL
MODULE  SUBMODUL
service2=2
What's the name of your childcare centre?

And what suburb are you in?

[INTERVIEWER NOTE: Record centre name and suburb]
Name and suburb
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         service46
NOLAB
MODULE  SUBMODUL
service3 ne ''
I was just ringing to speak to your Nominated Supervisor about a child
health survey, but I'll just check these details against our list of
services to call and ring you back if you're one of the service we
need
to speak with.

Thanks for your time.
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service55
LABEL
MODULE  SUBMODUL
service2=1
Ok, What is the NEW name of your centre?

I'll just update our records with that information.

[INTERVIEWER NOTE: Record centre name]
NEW Name
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 7       Intro1  4                       _MAKE_
LABEL
MODULE  SUBMODUL
Service = 1 or service5 ne ''
We recently sent the Nominated Supervisor a letter about a health
survey
we're conducting in children's services. Today, I’m just following up
on the letter and was hoping to speak to the Nominated Supervisor.
Are they available?
1       Speaking to that person (record NAME on logsheet)
2       Person called to phone (record NAME on logsheet)
3       Person not avail (record on log sheet)
4       Time not suitable (record on log sheet)
5       Other (record on log sheet)
6       Requests copy of letter before continuing
.R      Refused
AS available
***************** SINGLE CHOICE - CATI VERSION
***************************
INFO  1         Intro2a 5
NOLAB
```

```
MODULE  SUBMODUL
Intro1 = 2
Hello, my name is ^_INTVR_^ and I'm from Hunter New England
Local Health District.

We recently sent you a letter advising you that we would be contacting
you soon regarding a health survey in children's services.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Intro2b 3
NOLAB
MODULE  SUBMODUL
Intro1 = 1
The letter advised that the survey was about opportunities for
children's services to promote physical activity and healthy eating
to children.
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 5       Intro3  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Intro2b = 1 or intro2a=1
The survey should take about 20-25 minutes.

Is now a good time for you or would you like me to call back later?
1       Yes/Appropriate
2       No/Call back later
3       Requests copy of letter before continuing
4       No/Declined survey
.R      Refused
Appropriate time
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     refused 3
LABEL
MODULE  SUBMODUL
Intro1 = .R or Intro3 = .R
OK, thank you for your time.

[Do not ask, but record reason if given]
Refused Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
OPEN  1 200     res_oth 3
LABEL
MODULE  SUBMODUL
Intro1 = 5
OK, thank you for your time.

[Do not ask, but record reason if given]
Other Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
OPEN  1 200     decline 3
LABEL
MODULE  SUBMODUL
INTRO3=4
OK, thank you for your time
```

```
[If provide reason - record]
Decline to participate
****************** OPEN ENDED ENTRY ITEM
********************************
CHCE  1 3       Letter  3                     _MAKE_
LABEL
MODULE  SUBMODUL
Intro3=3 or intro1=6
Sure, I can send you another copy.

Would you prefer email, mail or fax?
1       Email
2       Mail
3       Fax
Letter
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      let1    3
LABEL
MODULE  SUBMODUL2
Letter=1
Can I have your email address?

[INTERVIEWER NOTE: - Record Email and First name
NUMC                    2
Email                                       C
Name                                        C
EMAIL
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 10      let2    4
LABEL
MODULE  SUBMOD  3
Letter=2
Can I have your postal address?

[INTERVIEWER NOTE: - Check against address printed on the logsheet
 Record new address - check spelling.]
numc                    3
Street                                      C
Suburb                                      C
Postcode                                    C
Current address
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      let3    3
LABEL
MODULE  SUBMODUL2
Letter=3
Can I have your fax number?

[INTERVIEWER NOTE: - Record fax & First name - double check number]
NUMC                    2
Fax number                                  C
Name                                        C
FAX NUMBER
```

```
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       continue4                       _MAKE_
LABEL
MODULE  SUBMODUL
Let1 ne . or Let2 ne . or Let3 ne .
I'll send that off as soon as possible.

Would you be willing to continue the survey today, or would you prefer
us to call you back once you've had a chance to read the letter?
1       Yes - continue survey
2       No - arrange callback
Continue survey
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         callback7
NOLAB
MODULE  SUBMODUL
Intro3 = 2 or intro1 in (3,4) or continue=2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet
If faxing/emailing - can arrange callback in minimum of 2 days time
If mailing letter - can arrange callback in minimum of 5 days time]

Thank you very much for your time. Goodbye.
****************** INFORMATION SCREEN ITEM
******************************
TABL  1 20      Name    6
NOLAB
MODULE  SUBMODUL2
Intro3= 1 or continue=1
Great, thanks for agreeing to participate.
Before we begin, can I ask your name?

[INTERVIEWER NOTE: - Record first and last name of Nominated
Supervisor
or equivalent. Check spelling. If they comment that they've already
provided their name, say that we are just confirming everyone's
details]
NUMC                    2
First Name                                  C
Last Name                                   C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 3       roomcall8                       _MAKE_
LABEL
MODULE  SUBMODUL
Name gt .
Within the coming months we were also hoping to talk to a room leader
or educator in your preschool room. We have some different questions
for
them focused on the day-to-day practices for 3 to 5 year olds.

The room leader’s survey takes about 10-15 minutes and can be
scheduled
for the most convenient time for them. Do I have your permission to
contact an appropriate Educator from your service?
```

```
They are free to say no when we contact them.
1       Yes - consent to contact
2       No - do not consent contact
3       N/A - do not have 3 - 5 year olds
OK to contact
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         Rooms   4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Roomcall = 1
If possible, we'd like to select a Room Leader or Educator at random.

In order to do that, could you please tell me how many rooms there are
at your service for 3 - 5 year-olds?
0                       10
0                       100
Number of Rooms
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Random1 6                       _MAKE_
LABEL
MODULE  SUBMODUL
Rooms ge 2
Can you think of the room leaders of those ^Rooms^ rooms, and tell me
the name of the room leader who had the last birthday?

[INTERVIEWER NOTE: Help out if possible. The Nominated Supervisor CAN
pick
someone else if the person picked during randomisation is not suitable
-
but it's preferable to have randomised selection]
1       they CAN name the person with the last birthday
2       they CANNOT name the person with the last birthday
3       they WILL NOT name person with last b'day (choose)
Remembers last birthday
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       Random2 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Random1 in (2,3)
Can you think of a Room Leader or Educator at your service who works
with 3 to 5 year olds and would be able to provide information about
their day-to-day routines?
1       Yes
2       No
Recommends RL/Educator
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      Ran3    4
NOLAB
MODULE  SUBMODUL2
Rooms=1 or Random2=1 or Random1=1
What is the name of the Room Leader (or Educator)?

[INTERVIEWER NOTE: - Record first and last name of Room Leader
or equivalent. Check spelling.]
```

```
NUMC                    2
First Name                                  C
Last Name                                   C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         Random5 12
NOLAB
MODULE  SUBMODUL
Ran3 ne .
Thanks very much. Along with your letter, we also included a letter
for
the Room Leader. Could you please pass this letter on and we'll phone
^Ran3c1^ in the next few months to arrange a time to do
the survey.

[INTERVIEWER NOTE:
- If expecting a call sooner say "Although the letter said we would
call
the room leader in the next two weeks, we've had to delay this, and so
will phone in a few months to arrange a time to do the survey.

- If they want another copy of the letter resent to the Room Leader,
record the details on the logsheet in the "Room Leader" column.]
******************* INFORMATION SCREEN ITEM
*******************************
INFO  1         Random6 2
NOLAB
MODULE  SUBMODUL
Random2=2 or roomcall=2
Ok, That's fine. We'll get a lot of useful information
from today anyway.
******************* INFORMATION SCREEN ITEM
*******************************
INFO  1         Random7 1
NOLAB
MODULE  SUBMODUL
roomcall=3
Ok, That's fine.
******************* INFORMATION SCREEN ITEM
*******************************
CHCE  1 2       written 2                       _MAKE_
LABEL
MODULE  SUBMODUL
random5=1 or random6=1 or random7=1
Along with the letter, we also sent out a copy of these questions.
Did you happen to talk about any of these questions with your staff?
1       Yes
2       No ["That's Fine"]
written survey
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       refer   5                       _MAKE_
LABEL
MODULE  SUBMODUL
written in (1,2)
Do you have the questions in front of you to refer to?

[INTERVIEWER NOTE:
```

```
- Allow supervisors the time to get the copy of the questions
- The interview may be quicker that way]
1       Yes
2       No ["No Problem"]
refering to survey
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Begin   1
NOLAB
MODULE  SUBMODUL
refer in (1,2)
If it's OK with you, we'll begin the survey.
******************* INFORMATION SCREEN ITEM
******************************
MULT  1 10      Q1      4                                       8
MLTLB
MODULE  SUBMODUL
Begin = 1
Firstly, could you please let me know your position?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Director
2       Nominated / Authorised Supervisor
3       Room Leader (Preschool room)
4       Room Leader (Toddlers room)
5       Room Leader (Infants room)
6       Committee Member
7       Service owner
8       Other (Please Specify)
-9      Don't Know [DO NOT READ OUT]
-10     Prefer not to say [DO NOT READ OUT]
Position
Director
Nominated Supervisor
Room Leader (Preschool room)
Room Leader (Toddlers room)
Room Leader (Infants room)
Committee Member
Service owner
Other (Please Specify)
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q1_open 1
LABEL
MODULE  SUBMODUL
Substr(Q1,8,1) gt '0'
Please Specify Other
Refused Reason
****************** OPEN ENDED ENTRY ITEM
********************************
MULT  1 6       Q2      4                                       4
MLTLB
MODULE  SUBMODUL
Substr(Q1,1,7) gt '0000000' or Substr(Q1,9,2) gt '00' or Q1_open ne '
'
```

```
Which of the following age groups does your service care for?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Children under 1 year
2       1 year olds
3       2 year olds
4       3 to 5 year olds
-5      Don't Know [DO NOT READ OUT]
-6      Prefer not to say [DO NOT READ OUT]
Care for age groups
Under 1 year olds
1 year olds
2 year olds
3 to 5 year olds
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 5       Q5      3                                       3
MLTLB
MODULE  SUBMODUL
Substr(Q2,1,6) gt '000000'
Which of the following best describes your service?

[INTERVIEWER NOTE: Read out all response options]
1       Preschool
2       Long day care centre
3       Occasional Care
-4      Don't Know [DO NOT READ OUT]
-5      Prefer not to say [DO NOT READ OUT]
Type of Service
Preschool
Long day care centre
Occasional Care
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NUM   1         Q3      6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Substr(Q5,1,5) gt '00000'
Overall, how many allocated places for children do you have at your
service?

[INTERVIEWER NOTE:
- record NUMBER OF PLACES PER DAY
- do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Allocated Places
****************** NUMERIC OR DATE ENTRY - CATI VERSION
*****************
NUM   1         Q3a     4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
```

```
Q3 ne .
Overall, how many children are enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Number enrolled
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 4       ATSI    4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q3a ne .
Are you aware of any children of Aboriginal or Torres Strait Islander
origin enrolled at your service?

[INTERVIEWER NOTE: Don't read out response options]
1       Yes
2       No
3       Don’t Know
.R      Refused
Any Aboriginal or Torres Strait children
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         atsinum 5    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSI = 1
How many children of Aboriginal or Torres Strait Islander origin are
enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Number Aboriginal or Torres Strait children
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q4open  3    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSInum ne . or ATSI in (2,3,.R)
How many days a week are you open?

[INTERVIEWER NOTE: If varies from week to week, enter average days/wk]
0                       7
0                       1000
Number of days open
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      Q4      8    MM
NOLAB
MODULE  SUBMODUL2
Q4open ne .
What are your service hours of operation?

[INTERVIEWER NOTE: Use 24 hour time
```

```
0.5 for 30 minutes, 0.25 for 15 minutes, 0.75 for 45 minutes

- 3pm = 15      4pm = 16
- 5pm = 17      6pm = 18
- 7pm = 19      8pm = 20]
Nmiss                   0
Opening Time                                N              0
24
Closing Time                                N              0
24
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       elig1a  7                       _MAKE_
LABEL
MODULE  SUBMODUL
Q4 ne .
Is your service part of a DEC primary or central school?

[INTERVIEWER NOTE: DEC = 'Department of Environment & Community'
ONLY answer YES if they are located within a DEC facility.
While all childcare centres are licensed by DEC, there are only a few
services attached to DEC schools, and I should have removed them all
from the logsheets]
1       Yes
2       No
Eligibility: DEC service
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       elig2a   1                      _MAKE_
LABEL
MODULE  SUBMODUL
elig1a=2
Do you enrol children with special needs?
1       Yes
2       No
Eligibility: special needs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       elig2b   1                      _MAKE_
LABEL
MODULE  SUBMODUL
elig2a=1
Does your service also enrol children without special needs?
1       Yes
2       No
Eligibility: special needs
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         elig1b  9
NOLAB
MODULE  SUBMODUL
elig1a=1 or elig2b=2
Ok, that means that your service isn't one that we need to collect
this information from, so we won't actually proceed with this
survey today.

However, you will still be able to access support
```

```
to implement healthy eating and physical activity policies and
practices
in your service.

Your Local Health District will have more information about this.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         elig1c  1
NOLAB
MODULE  SUBMODUL
elig1b=1
Thank you so much for your time today
****************** INFORMATION SCREEN ITEM
*******************************
CALC            tottime 0
NOLAB
MODULE  SUBMODUL1
elig2a = 2 or elig2b=1
Tottime = Q4N2 - Q4N1;
************************************************
CHCE  1 5       Q6      4                       _MAKE_
LABEL
MODULE  SUBMODUL
tottime ne .
The next questions are about meals and snacks.

Do families provide food for any meals or snacks when their child
attends your service?
1       Yes, all meals and snacks
2       Yes, some meals and snacks
3       No, service provides all meals and snacks
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Provide food for meals and snacks
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       menu    8                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 in (2,3,4,5)
The next questions are about the foods and drinks on your service's
menu.
Could you please refer to last week's menu when you answer these
questions.
Do you have a copy of LAST WEEKS' menu in front of you?

[INTERVIEWER NOTE: Prompt with 'do you think it would be easier for
you
to get a copy to have in front of you for this survey?' Allow
respondent
time to find. If they can't, select 'NO' and continue with this
interview
NB. It's OK if it's the menu from this week too].
1       Yes
2       No
Menu in front of you
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
MULT  1 6       t_day   4                                       6
MLTLB
MODULE  SUBMODUL
Menu ne .
On a typical day, what meals and snacks would your service provide
to children?

[INTERVIEWER NOTE: Read out all response options]
1       Breakfast
2       morning tea
3       lunch
4       afternoon tea
5       dinner
6       Other (Please specify)
Meals and snacks provided
Breakfast
morning tea
lunch
afternoon tea
dinner
Other (Please specify)
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     typ_oth 1
LABEL
MODULE  SUBMODUL
Substr(t_day,6,1) = '1'
Please specify other type of meal
Other Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 8       Q7      2                       _MAKE_
LABEL
MODULE  SUBMODUL
typ_oth ne ' ' or substr(t_day,1,6)  gt  '000000'
In the past week, how often did you serve fruit, including fresh or
canned in natural juice, BUT NOT INCLUDING juice or fruit drinks?
1       Never
2       Rarely
3       2 times per week or less
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve fruit
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 8       Q8      3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q7 in (1,2,3,4,5,6,7,8)
In the past week, how often did you serve vegetables, including fresh
or canned, BUT NOT including chips, french fries or potatoes that your
service cooks in oil?
1       Never
2       Rarely
3       2 times per week or less
```

```
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve vegetables
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 16      Q9       5                                        10
MLTLB
MODULE  SUBMODUL
Q8 in (1,2,3,4,5,6,7,8)
In the last week which of the following foods, if any, did your
service
provide during the day? This includes for snacks or at meals.

Please select all that apply
[INTERVIEWER NOTE: Read out all response options]
1       Confectionary, chocolate, ice cream
2       Fruit or vegetable pieces or platters
3       Iced or creamed cakes, lamingtons or donuts
4       Fruit bread (e.g raisin toast), English or fruit toast,
5       [CONT] muffins or pikelets
6       Potato chips, corn chips, cheese flavoured snacks
7       [CONT](such as Twisties or Cheezels).
8       Rice crackers or rice cakes
9       French fries, hash browns, hot chips (cooked in oil)
10      Pretzels, plain popcorn (no added fat), ovenbaked chips
11      [CONT] (not oiled)
12      Sweet biscuits with chocolate or cream filling
13      Yoghurt
-14     None of the above
-15     Don't know [DO NOT READ OUT]
-16     Prefer not to say [DO NOT READ OUT]
Foods which serviced provide last week
Confectionary, chocolate, ice cream
Fruit or vegetable pieces, salad or platters
Iced or creamed cakes, lamingtons or donuts, incl birthday cake
Fruit bread (e.g raisin toast), English or fruit toast
[CONT] muffins  or pikelets
Potato chips, corn chips, cheese flavoured
[CONT](snacks such as Twisties or Cheezels).
Rice crackers or rice cakes
French fries, hash browns, hot chips (cooked in oil)
Pretzels, plain popcorn (no added fat),oven-baked chips
[CONT](not oiled)
Sweet biscuits with chocolate or cream filling
Yoghurt
None of the above
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NULL  1         null_9  0
NOLAB
MODULE  SUBMODUL
substr(Q9,1,13) gt '0000000000000'
```

```
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q10     1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 = 1 or (Q6 in( 2,4,5) and Null_9 = 1)
Does your service monitor lunchboxes?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Monitor lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q10a    2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10=1
How often do educators monitor the lunchboxes of all children to check
the foods or drinks packed by families?
1       Once per week or less
2       2 times per week
3       Three times per week
4       Four times per week
5       Everyday
6       Don't Know
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Educators monitor / check lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Guidline3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10a in (1,2,3,4,5,6,7,8) or Q10 in (2,3,4)
Does your service have written nutritional guidelines for families
regarding recommended food and drinks brought from home for meals
and snacks?
1       Yes
2       No
3       Don't Know [DON'T READ OUT]
Written nutritional guidelines
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       provide 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Guidline = 1
In the last 12 months, has your service provided all families with a
copy
of the nutritional guidelines regarding recommended foods and drinks
brought from home?
1       Yes
2       No
3       Don't Know
Copy of nutritional guidelines
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
NULL  2         nulla   0
NOLAB
MODULE  SUBMODUL
Provide in (1,2,3) or Guidline in (2, 3) or
(Q6 = 3 and Null_9 = 1)
************************NULL ITEM - DOES
NOTHING************************
MULT  1 9       Q11     4                                       6
MLTLB
MODULE  SUBMODUL
Nulla = 1
What drinks, if any, does your service provide during the day?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Fruit juice or fruit drink including 100% fruit juice
2       Cordial
3       Water
4       Plain milk
5       Flavoured milk
6       Soft drink
-7      No drinks provided
-8      Don't know [DO NOT READ OUT]
-9      Prefer not to say [DO NOT READ OUT]
Drinks provided during the day
Fruit juice or fruit drink (includes 100% fruit juice)
Cordial
Water
Plain milk
Flavoured milk
Soft drink/flavoured mineral/soda water
No drinks provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 4       Q12     2                                       2
MLTLB
MODULE  SUBMODUL
substr(Q11,4,1) gt '0' and substr(Q2,3,4) gt '0000'
What type of plain milk do you provide for children 2 years of age
and older? Please select all that apply.
1       Full cream
2       Reduced Fat (including lite, low fat and no fat milk)
-3      Don't know [DO NOT READ OUT]
-4      Prefer not to say [DO NOT READ OUT]
Type of Milk provided
Full Cream
Reduced Fat
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NULL  2         nullw   0
NOLAB
MODULE  SUBMODUL
(substr(Q11,4,1) gt '0' and substr(Q2,3,4) = '0000')
or substr(Q11,4,1) = '0' or substr(Q12,1,4) gt '0000'
```

```
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 8       Q13     4                       _MAKE_
LABEL
MODULE  SUBMODUL
nullw=1
How often are structured and specific learning experiences about
healthy
eating implemented as part of your curriculum/program (e.g.
experiential
activities about food knowledge or skills such as cooking, stories,
and vegetable gardens)?
1       Never
2       Rarely
3       Monthly
4       Once per week
5       2-4 times per week
6       Daily
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Specific Learning Experiences
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q14     5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='1'
The next question is about play time for babies at your service.

How many days in the past week were babies (birth - 12 months of age)
provided with supervised floor based play time where they were on
their tummies?
1       Never
2       1 Day
3       2 Days
4       3 Days
5       4 Days
6       Everyday
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Supervisor floor based play time
***************** SINGLE CHOICE - CATI VERSION
****************************
NULL  2         nullx   0
NOLAB
MODULE  SUBMODUL
Q14 in (1,2,3,4,5,6,7,8) or
(Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='0')
************************NULL ITEM - DOES
NOTHING************************
INFO  1         Q15info 6
NOLAB
MODULE  SUBMODUL
(Nullw=1 and substr(Q2,2,5) gt '00000') or nullx=1
The next couple of questions are about the amount of time available
for
physical activity during a usual day for toddlers and preschool age
children.
```

```
These questions specifically relate to children aged 1-5 years, in
your
care.
****************** INFORMATION SCREEN ITEM
*****************************
TABL  1 20      Q15     8    MM
NOLAB
MODULE  SUBMODUL2
Q15info = 1
You mentioned earlier that your service is open for about ^tottime^
hours
each day.
On average how much time each day, do children spend participating in
educator led structured active play such as circle time, music,
dancing
or planned activities to develop movement skills?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
100
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      Q16     6    MM
NOLAB
MODULE  SUBMODUL2
Q15 ne .
And on average how much time each day do children have available to
spend in child-initiated, free physically active play?  This includes
both indoor and outdoor free active play.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
99
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  1         nully   0
NOLAB
MODULE  SUBMODUL
(Nullw=1 and substr(Q2,2,6) = '00000') or Q16 ne .
************************NULL ITEM - DOES
NOTHING************************
INFO  1         Q17info 10
NOLAB
MODULE  SUBMODUL
nully=1 and substr(Q2,4,6) gt '000'
The next question refers to the development of Fundamental Movement
Skills (FMS) of children aged 3-5 years at your service.
```

```
For the purposes of this survey, FMS refers to basic gross motor
movement
skills such as running, catching, jumping, kicking and the like.

[IF NECESSARY: It also includes galloping, leaping, hopping, ball
dribbling, side-sliding, striking a ball, underarm rolling and over
arm throwing. Development of such skills involves educators
explaining,
demonstrating and providing feedback to children for each skill.]
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 8       Q17     6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q17info = 1
On how many days in the last week did your service Educators lead
structured activity to develop Fundamental Movement Skills for all
children at your service?

This could have been during a transition activity, group or circle
time or during outdoor play.
1       Never
2       1 Day
3       2 Days
4       3 Days
5       4 Days
6       Everyday
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Lead structured activity
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         Q17a    6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q17 in (2,3,4,5,6,7,8)
On days where structured activities to develop Fundamental Movement
Skills
occurred what percentage of the 3 to 5 year olds at your service would
usually participate?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       100
0                       1000
Percentage of children participating
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NULL  1         null_A  0
NOLAB
MODULE  SUBMODUL
Q17a ne . or Q17=1 or (nully=1 and substr(Q2,4,6) = '000')
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 9       Q18     5                       _MAKE_
LABEL
MODULE  SUBMODUL
```

```
null_A and substr(Q2,4,3) gt '000'
The next questions refer to time spent watching TV, videos or DVD by
3 to 5 year olds.

On average, on how many days each week would children spend time
watching television, videos or DVDs?
1       Never
2       Less than 1 day a week
3       1 day
4       2 days
5       3 days
6       4 days
7       Everyday
8       Don't know [DO NOT READ OUT]
9       Prefer not to say [DO NOT READ OUT]
SSR days per week
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 7       Q18a    6                                       5
MLTLB
MODULE  SUBMODUL
Q18 in (2,3,4,5,6,7,8,9)
For which of the following purposes do children aged 3 to 5 years at
your
service spend time watching television, videos or DVDs?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
- read 'info re:' as 'INFORMATION ABOUT A specific learning area'
1       To gain knowledge/share info re:a specific learnin area
2       For child amusement, enjoyment or entertainment
3       To facilitate exploration of activity,dance or movement
4       For "down time" or "quiet time"
5       For another purpose
-6      Don't know [DO NOT READ OUT]
-7      Prefer not to say [DO NOT READ OUT]
Purposes for watching Videos
To gain knowledge / share information about a specific learning area
For child amusement, enjoyment or entertainment
To facilitate exploration of activity, dance or movement
For "down time" or "quiet time"
For another purpose
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q18ai   1
LABEL
MODULE  SUBMODUL
Substr(Q18a,5,1) = '1'
Please specify the other purpose
SSR use - other purpose
****************** OPEN ENDED ENTRY ITEM
********************************
CHCE  2 5       Q18b    2                       _MAKE_
LABEL
MODULE  SUBMODUL
(Substr(Q18a,2,1) = '1'  and  Substr(Q18a,5,1) = '0') or
```

```
(Substr(Q18a,2,1) = '1'  and Q18ai ne ' ')
When children are watching television, videos or DVDs for enjoyment
or entertainment would they usually be?
1       Sitting still
2       Standing with limited movement
3       Moving or being active
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Position when watching videos
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  3 5       Q18c    2                       _MAKE_
LABEL
MODULE  SUBMODUL
(Substr(Q18a,4,1) = '1' and Substr(Q18a,2,1) = '0' and
Substr(Q18a,5,1) = '0') or
(Substr(Q18a,4,1) = '1' and Q18b in (1,2,3,4,5)) or
(Substr(Q18a,4,1) = '1' and Q18ai ne  ' ')
When children are watching television, videos or DVDs to facilitate
'down time' or 'quiet time' would they usually be?
1       Sitting still
2       Standing with limited movement
3       Moving or being active
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Position when watching videos
***************** SINGLE CHOICE - CATI VERSION
***************************
NULL  3         nullz   0
NOLAB
MODULE  SUBMODUL
(Substr(Q18a,2,1) = '0'  and  Substr(Q18a,4,1)= '0'  and Q18ai ne ' ')
or
(Substr(Q18a,4,1) = '0'  and Q18b in (1,2,3,4,5) )
or  Q18c in (1,2,3,4,5)
************************NULL ITEM - DOES
NOTHING************************
TABL  1 20      Q18d    6    MM
NOLAB
MODULE  SUBMODUL2
Q18a gt '0000000' or Nullz = 1
On days when children aged 3 to 5 years at your service watch TV,
videos,
DVDs or play computer games, for how long would they spend doing these
things?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N             0
100
Time in Minutes                             N             0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  3         nulli   0
NOLAB
```

```
MODULE  SUBMODUL
(null_A and substr(Q2,4,3)= '000') or
Q18=1 or
Q18d ne .
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 6       Q18e    2                       _MAKE_
LABEL
MODULE  SUBMODUL
nulli=1 and Q2 ne '000100' and Q2 gt '000000'
In your service, how often are television, videos and DVDs, including
educational programs and videos, viewed by children aged 0-2.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
5       Don't know [DO NOT READ OUT]
6       Prefer not to say [DO NOT READ OUT]
How often watch videos
***************** SINGLE CHOICE - CATI VERSION
***************************
TABL  1 20      wviw    5    MM
NOLAB
MODULE  SUBMODUL2
Q18e = 4
In a typical week, for how long would children aged 0-2 watch
television,
videos and DVDs across the entire week?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N               0
100
Time in Minutes                             N               0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  3         nullv   0
NOLAB
MODULE  SUBMODUL
(nulli=1 and Q2 = '000100') or
wviw ne . or
Q18e in (1,2,3,5,6)
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q19     3                       _MAKE_
LABEL
MODULE  SUBMODUL
nullv = 1
Is your service aware of 'Get up and Grow', the Australian Government
Healthy Eating and Physical Activity Guidelines for Early Childhood
Education and Care?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
```

```
Aware of 'Get up and Grow'
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q20     1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q19 ne .
Does your service have a written nutrition policy?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written nutrition policy
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q20a    1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q20=1 and Q19=1
Is your policy consistent with 'Get Up and Grow?'
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
nutrition policy consistent with GUAG
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 7       Q20b    7                                       6
MLTLB
MODULE  SUBMODUL
Q20a ne . or (Q20=1 and Q19 in(2,3,4))
Does your policy specifically refer to any of the following:

[INTERVIEWER NOTE: Read out all response options
- F&D = Food & Drinks, HE = Health Eating
- * comm = communication
- w/ = with
- "re" = about
1       Promoting healthy F&D
2       Staff role modelling HE at meal & snack times
3       Staff making supportive comments about HE & F&D
4       Providing learning experiences re: healthy F&D
5       Service-wide comm* w/ families re: healthy F&D to bring
6       Being inclusive of particular population groups
-7      None of the above
Policy specifically refer to
Promoting healthy food and drinks
Staff Role Modelling HE
Staff making supportive comments
Providing Learning experiences for children about healthy F&D
Communication with families about healthy F&D
Being inclusive of particular population groups
None of the above.
******************MULTIPLE CHOICE - CATI
VERSION***************************
NULL  1         nullq   0
NOLAB
MODULE  SUBMODUL
```

```
substr(Q20b,1,7) ne '0000000' or Q20=2
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q21     1                       _MAKE_
LABEL
MODULE  SUBMODUL
nullq=1
Does your service have a written physical activity policy?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written physical activity policy
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q21a    1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q21=1 and Q19=1
Is your policy consistent with 'Get Up and Grow?'
1       Yes
2       No
3       Don't Know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
PA policy consistent with GUAG
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 7       Q21b    6                                       6
MLTLB
MODULE  SUBMODUL
Q21a ne . or (Q21=1 and Q19 in(2,3,4))
Does your policy specifically refer to any of the following:

[INTERVIEWER NOTE: Read out all response options:
- PA (Physical Activity)
- FMS (Fundamental Movement Skills)
- SSR(Small Screen Recreation)
1       Promoting participation in a range of FMS experiences
2       Limiting time children spend watching TV & DVDs
3       Staff role modelling being physically active
4       Staff providing verbal prompts to promote PA
5       Service-wide communication with families about PA & SSR
6       Being inclusive of particular population groups
-7      None of the above.
Policy specifically refer to:
Promoting participation in FMS
Limiting SSR
Staff role modelling
Staff providing verbal prompts
Service-wide communication
Being inclusive
None of the above.
******************MULTIPLE CHOICE - CATI
VERSION************************
CHCE  1 2       Q21bi   1                       _MAKE_
LABEL
MODULE  SUBMODUL
substr (Q21b,1,7) gt '0000000' and substr(Q2,1,1) = '1'
```

```
And does your policy specifically refer to providing 'Tummy Time'
1       Yes
2       No
Policy included Tummy Time
***************** SINGLE CHOICE - CATI VERSION
***************************
NULL  2         nullp   0
NOLAB
MODULE  SUBMODUL
Q21 in (2 3 4) or Q21bi ne . or
(substr(Q21b,1,7) ne '0000000' and substr(Q2,1,1) = '0')
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q22     2                       _MAKE_
LABEL
MODULE  SUBMODUL
nullp=1
Does your service have a written policy restricting child viewing of
TV,
DVDs or Videos?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q22a    1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22=1 and Q19=1
Is your policy consistent with 'Get Up and Grow?'
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy consistent with GUAG?
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q23     3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22a in (1 2 3,4) or Q22 in(2 3 4) or (Q22=1 and Q19 in (2 3 4))
Does your service have a written policy that promotes healthy eating
and physical activity practices and programs that are sensitive to
the needs of minority or disadvantaged groups attending your service?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Minority policy?
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 5       Q24     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q23 in (1 2 3,4)
Each year, does your service monitor and report, internally or
```

```
externally, on its achievement of the healthy eating and physical
activity objectives as stated in written policies, guidelines,
or other documents?
1       Yes
2       No
3       Service doesn’t have HE/PA objectives
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Monitor and report against objectives
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       QIP     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q24 in (1,2,3,4,5)
Does your service include healthy eating and physical activity
objectives
in your Quality Improvement Program?

[INTERVIEWER NOTE: If "yes", prompt "and is that for HE, PA or both?"
1       Yes - Healthy Eating
2       Yes - Physical Activity
3       Yes - Both HE & PAS
4       No - Neither
5       Don’t Know
Include healthy eating in quality program?
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 5       Obj     3                                       5
MLTLB
MODULE  SUBMODUL
QIP in (1,3)
And do you report against the healthy eating objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don’t report
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
*******************MULTIPLE CHOICE - CATI
VERSION****************************
OPEN  1 200     Obj_oth 1
LABEL
MODULE  SUBMODUL
Substr(OBJ,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
*********************************
MULT  1 5       Obj2    3                                       5
MLTLB
```

```
MODULE  SUBMODUL
QIP = 2 or (QIP = 3 and (Obj_oth ne ' ' or substr(OBJ,1,5) gt
'00000'))
And do you report against the physical activity objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don’t report
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Obj_oth21
LABEL
MODULE  SUBMODUL
Substr(OBJ2,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
********************************
NULL  2         null_obj0
NOLAB
MODULE  SUBMODUL
Obj_oth2 ne ' ' or substr(OBJ2,1,5) gt '00000' or QIP in (4,5)
Or (QIP = 1 and (Obj_oth ne ' ' or substr(OBJ,1,5) gt '00000'))
************************NULL ITEM - DOES
NOTHING************************
MULT  1 8       Q25     8                                       6
MLTLB
MODULE  SUBMODUL
Null_obj = 1
In the last 12 months, have you sent information home to families
from a recognised health authority for any of the following topics?

This would include material handed directly to parents, mailed or
emailed
or placed in their child’s pigeon hole or bag, or information included
in
newsletters or at orientation. Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Immunisation
2       HE for children (includes list of foods for lunchboxes)
3       Physical activity for children
4       Oral hygiene for children
5       Limiting screen time for children
-6      No information is provided
-7      Don't know [DO NOT READ OUT]
-8      Prefer not to say [DO NOT READ OUT]
Sent information home on:
Immunisation
```

```
Healthy eating for children (includes list of recommended foods for
lunch boxes)
Physical activity for children
Oral hygiene for children
Limiting screen time for children
No information is provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 2       Q25a    2                     _MAKE_
LABEL
MODULE  SUBMODUL
substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1) gt '0'
In the last 12 months, have you sent information home to families
from a recognised health authority about breastfeeding
1       Yes
2       No
Info home about breastfeeding
***************** SINGLE CHOICE - CATI VERSION
**************************
INFO  1         info_ed 2
NOLAB
MODULE  SUBMODUL
(substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1)='0') or Q25a in
(1,2)
The next questions are about healthy eating and physical activity
training opportunities provided to your staff
****************** INFORMATION SCREEN ITEM
******************************
NUM   1         Q26a    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Info_ed = 1
How many primary contact educators are working at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Usual numbers of workers
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q27     8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q26a gt 0 and Q26a ne .
How many of your Primary contact Educators have received training in
the
past 3 years regarding promoting child healthy eating?

This includes training provided by an external agency or by other
trained
staff in your service.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
```

```
0                       1000
Number received training
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q28     8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q27 ne .
How many of your primary contact Educators have received training in
the
past 3 years regarding promoting child physical activity?

This includes training provided by an external agency or by other
trained
staff in your service.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Number received training in last 3 years
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
INFO  1         info_s1a2
NOLAB
MODULE  SUBMODUL
Q28 ne .
Thanks for sticking with me. To finish I'll just ask some questions
about
your perceptions of the ^Program^ program.
******************** INFORMATION SCREEN ITEM
*******************************
INFO  1         info_s1b5
NOLAB
MODULE  SUBMODUL
Info_s1a = 1 and prog_num = 1
Good for Kids is a government funded initiative operating in the
Hunter
New England region.

Over the past few years Childcare services have been encouraged to
implement Good for Kids healthy eating & physical activity
initiatives.
******************** INFORMATION SCREEN ITEM
*******************************
INFO  1         info_s1c10
NOLAB
MODULE  SUBMODUL
info_s1b = 1
Services are encouraged:

1.  To implement healthy eating and physical activity policies

2a. To implement lunch box guidelines & monitor lunchboxes
                                        OR
2b. for menu services, to provide daily fruit & vegetables
    and only healthy snacks
```

```
[INTERVIEW NOTE: CONTINUED OVER PAGE]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         info_s1d9
NOLAB
MODULE  SUBMODUL
info_s1c = 1
3. To provide only plain milk or water

4. To implement fundamental movement skill programs and structured
   physical activity

5. To limit sedentary activities like TV & DVDs

6. To encourage staff to role model healthy eating and physical
activity
   and prompt these behaviours in children
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         info_s2b4
NOLAB
MODULE  SUBMODUL
Info_s1a = 1 and prog_num = 2
Munch and Move is a government funded initiative operating across NSW.

Over the past few years childcare services have been encouraged to
implement Munch and Move healthy eating and physical activity
initiatives.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         infoall111
NOLAB
MODULE  SUBMODUL
Info_s2b = 1
The Munch and Move program supports childcare services to promote
healthy eating and physical activity and limit small screen time.

The specific objectives of the program are to:

- Support staff and families to provide healthy eating
  opportunities for children

- Provide ideas for food-based learning experiences

[INTERVIEW NOTE: CONTINUED OVER PAGE]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         infoall212
NOLAB
MODULE  SUBMODUL
Infoall1=1
- Support staff and families to incorporate more physical
  activity into children's regular routines

- Support the development of Fundamental Movement Skills through
  active play

- Promote a reduction in the time spent in small screen recreation
```

```
  (TV, computers, DVDs, small hand-held devices)

- Provide ideas and information for communicating with families

- Provide professional development for staff
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         infoloop10
NOLAB
MODULE  SUBMODUL
infoall2  = 1 or info_s1d
I will now read you a list of 25 statements about the ^Program^
Program).

For each statement, I'll ask you 'to what extent do you agree or
disagree'.
Please answer on a scale from 0 - 10, where:
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree.

Please rate the following statements based on what you believe or
think
to be true about the program.
****************** INFORMATION SCREEN ITEM
*******************************
NUM   1         State_A 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Infoloop = 1
The Early Childhood Education and Care sector was involved in
developing
the ^Program^ initiatives.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                      10
0                      10
State_A
****************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_B 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_A ne .
There is strong research evidence that the ^Program^ initiatives
improve children's healthy eating and physical activity whilst
in care.
[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                      10
0                      10
```

```
State_B
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_C 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_B ne .
The ^Program^ initiatives are not supportive of healthy child
growth and development.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_C
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_D 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_C ne .
The ^Program^ initiatives are consistent with healthy eating
and physical activity guidelines for the Early Childhood Education
and Care sector.
[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_D
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_E 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_D ne .
The ^Program^ initiatives are consistent with 'The National Quality
Framework'.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_E
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_F 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_E ne .
```

```
My service planning processes include implementing the ^Program^
initiatives.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_F
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_G 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_F ne .
The ^Program^ initiatives are consistent with the philosophy of my
service


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_G
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_H 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_G ne .
Relative to other priorities and initiatives that my service provides,
the ^Program^ initiatives are less important.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_H
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_I 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_H ne .
The physical activity and healthy eating policies and practices of my
service need to be improved.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
```

```
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_I
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_J 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_I ne .
The ^Program^ initiatives are difficult to implement in services.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_J
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_K 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_J ne .
Implementing the ^Program^ initiatives is disruptive for services.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_K
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_L 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_K ne .
Implementing the ^Program^ initiatives is costly for services.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_L
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
```

```
NUM   1         State_M 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_L ne .
Implementing the ^Program^ initiatives enhances the reputation
of a service.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_M
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_N 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_M ne .
It is likely that my leadership in implementing the ^Program^
initiatives would result in a promotion or pay-rise.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_N
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_O 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_N ne .
I support implementing the ^Program^ initiatives in my service.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_O
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_P 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_O ne .
Educators at my service understand the expectations of the service
regarding the implementation of child healthy eating and physical
activity policies or programs.
```

```
[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_P
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_Q 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_P ne .
Our management committee is supportive of implementing the
^Program^ initiatives

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_Q
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_R 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_Q ne .
Parents are supportive of implementing the ^Program^ initiatives.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_R
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_S 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_R ne .
Well-known individuals within the children's services sector are
active
in promoting the ^Program^ initiatives.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
```

```
0                       10
State_S
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_T 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_S ne .
Most other services in my region would be supportive of the ^Program^
initiatives

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_T
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
INFO  1         stick   3
NOLAB
MODULE  SUBMODUL
State_T ne .
Thanks for sticking with me - we're almost at the end.

[INTERVIEWER NOTE: Only 5 more statements to go]
******************** INFORMATION SCREEN ITEM
******************************
NUM   1         State_U 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
stick=1
External resources to help implement the ^Program^ initiatives are
accessible to my service.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_U
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_V 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_U ne .
Professional advice and assistance to implement the ^Program^
initiatives are accessible to my service.

[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
```

```
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_V
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_W 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_V ne .
I am confident that my service can implement the ^Program^
initiatives.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_W
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_X 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_W ne .
Staff at my service are motivated to implement the ^Program^
initiatives.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_X
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         State_Y 8    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
State_X ne .
My service is ready to implement the ^Program^ initiatives.


[INTERVIEWER NOTE: Reminder 'Please answer on a scale from 0-10, where
    0  = completely disagree,
    5  = neither agree nor disagree, and
    10 = completely agree]
[INTERVIEW NOTE: DON'T READ OUT - if they don't know, select 5]
0                       10
0                       10
State_Y
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 4       Q29     8                       _MAKE_
LABEL
MODULE  SUBMODUL
State_Y ne .
And lastly, do you have any comments about implementing healthy eating
and
physical activity practices in your centre that you would like NSW
Health
to be aware of?  It could be about your experiences of implementing
such
practices in your service, about this survey, or anything else you
think
is important to mention?

[INTERVIEWER NOTE: IF NECESSARY
 - "I can jot down one or two comments you may have.]
1       Yes (Specify)
2       No
3       Don't know
4       Prefer not to say
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 400     Q29o    1
LABEL
MODULE  SUBMODUL
Q29=1
[INTERVIEWER NOTE: Type comments here]
COMMENT - OPEN
******************* OPEN ENDED ENTRY ITEM
*********************************
INFO  1         share1  12
NOLAB
MODULE  SUBMODUL
(Q29 in (2,3,4) or Q29o ne ' ') and prog_num = 2
Thank you so much for answering those questions.

Before you go, I want to quickly ask you about providing your
responses
to this survey to the Local Health District Health Promotion Officer
in
your area.

NSW Health would like to do this so that the Officer can better tailor
their support to your service regarding the development and
implementation
of healthy eating and physical activity policies and practices.

The Health Promotion Officers will be provided this information only
in strictest confidence.
****************** INFORMATION SCREEN ITEM
*****************************
CHCE  1 2       share2  3                       _MAKE_
LABEL
MODULE  SUBMODUL
share1=1
```

```
Do you consent to allowing the information you provide as part of the
survey to be passed on to your Local Health District Health Promotion
Officer?
1       Yes
2       No
PASS ON INFO
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         info_tnk3
NOLAB
MODULE  SUBMODUL
((Q29o ne '' or Q29 in (2,3,4)) AND prog_num=1) or share2 ne .
Thank you so much for answering those questions. The information
you've
provided will be used to help develop, deliver and evaluate healthy
eating and physical activity programs to children's services.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         callname2
NOLAB
MODULE  SUBMODUL
Info_tnk = 1 and random5=1
We'll call the centre again in the next few months to try and talk to
^Ran3c1^
****************** INFORMATION SCREEN ITEM
******************************
NULL  1         null5   0
NOLAB
MODULE  SUBMODUL
Callname = 1 or (Info_tnk = 1 and (random6=1 or random7=1))
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 3       menufax 7                       _MAKE_
LABEL
MODULE  SUBMODUL
null5=1 and Q6 in (2 3)
And, if at all possible, it would be great if you could send through
a copy of your service's menu from last week to us.

Would you be willing to fax that through?

[INTERVIEWER NOTE: If they ask, they can also email through to
rebecca.wyse@hnehealth.nsw.gov.au]
1       Yes
2       No
3       Not applicable
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Menufax18
NOLAB
MODULE  SUBMODUL
menufax=1
Thank you so much.

I'll give you the fax number, do you have a pen?
```

```
The number is 4924 6209. And could you please 'Attention' it to
Rebecca.

[INTERVIEWER NOTE: If they ask, they can also email through to
rebecca.wyse@hnehealth.nsw.gov.au]
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Menufax21
NOLAB
MODULE  SUBMODUL
menufax in (2 3)
Ok - that's not a problem.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         INFOEND 2
NOLAB
MODULE  SUBMODUL
(null5=1 and Q6 in (1 4 5)) or Menufax1=1 or Menufax2=1
Thanks again for giving up your time today to talk to us.
We really appreciate it. Thanks for your help and have a lovely day.
****************** INFORMATION SCREEN ITEM
*******************************
TIME  1         T_END   0
LABEL
end     time
INFOEND = 1
Recording end time
****************** GET DURATION ITEM
************************************
OPEN  1 200     commhere4
LABEL
MODULE  SUBMODUL
T_END gt .
[INTERVIEWER NOTE: use this space to record any information that you
 think the GFK team should know - Thank you!]

[INTERVIEWER NOTE: If no comments, type 'nil']
Interviewer comments
****************** OPEN ENDED ENTRY ITEM
*******************************
STAT  1         STAT_CQ 1
NOLAB
end     stat
commhere gt ''
Completed
CQ
**************************************************************************
*****
STAT  1         STAT_CB 1
NOLAB
CB     stat
callback = 1
Callback
CB
**************************************************************************
*****
STAT  1         STAT_DR 1
NOLAB
```

```
DR     stat
Refused ne ' ' or decline ne ''
Refused
DR
*************************************************************************
*****
STAT  1         STAT_OS 1
NOLAB
OS      stat
elig1c=1
Out of scope
OS
*************************************************************************
*****
STAT  1         STAT_OT 1
NOLAB
OT      stat
res_oth ne ' '
Other
OT
*************************************************************************
*****
STAT  1         STAT_OP 1
NOLAB
OP      stat
service4=1
Other reason
OP
*************************************************************************
*****
STAT  1         STAT_WN 1
NOLAB
WN      stat
service6=1
Wrong number
WN
*************************************************************************
*****
INFO  1         Status1 3
NOLAB
MODULE  SUBMODUL
stat_cq='CQ'
THIS INTERVIEW IS A "CQ". WELL DONE!

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status2 3
NOLAB
MODULE  SUBMODUL
stat_cb='CB'
THIS INTERVIEW IS A "CB".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status3 3
NOLAB
```

```
MODULE  SUBMODUL
stat_DR='DR'
THIS INTERVIEW IS A "DR".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status4 3
NOLAB
MODULE  SUBMODUL
stat_OS='OS'
THIS INTERVIEW IS AN "OS".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status5 3
NOLAB
MODULE  SUBMODUL
stat_OT='OT'
THIS INTERVIEW IS AN "OT".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status6 5
NOLAB
MODULE  SUBMODUL
stat_OP='OP'
THIS INTERVIEW IS AN "OP".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
************************* INFORMATION SCREEN
*****************************
INFO  1         Status7 5
NOLAB
MODULE  SUBMODUL
stat_WN='WN'
THIS INTERVIEW IS A "WN".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
************************* INFORMATION SCREEN
*****************************
INFO  2         TERM    2
NOLAB
END     Term
status1=1 or status2=1 or status3=1 or status4=1 or status5=1 or
status6=1 or status7=1
INTERVIEWER TERMINATION INSTRUCTION, PRESS STOP
AND RECORD OUTCOME OF INTERVIEW ON LOG
************************* INFORMATION SCREEN
*****************************
```

```
TITL  0         Roomlead1       CATI                  7     NAME
NOLAB
MODULE  SUBMODUL
Room Leaders
************************ TITLE ITEM
************************************
TIME  0         t_start 1
LABEL
MODULE  SUBMODUL
This records Duration to Current point
Starting Time
****************** GET DURATION ITEM
************************************
LINK  1         SupQ6   1       QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL        5
T_start ne .
Items in external dataset
DATACATI.CONFID              SupQ6
DATACATI.CONFID              SupName
DATACATI.CONFID              RmLdName
DATACATI.CONFID              Tottime
DATACATI.CONFID              fullname
Links to external database
***************** LINK TO EXTERNAL DATASET ITEM
****************************
CHCE  1 2       service 4                      _MAKE_
LABEL
MODULE  SUBMODUL
SupQ6 gt .
Hello, my name is ^_INTVR_^ and I'm from Hunter New England Local
Health District.

Is that ^fullname^?
1       Yes
2       No
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       service22                      _MAKE_
LABEL
MODULE  SUBMODUL
service=2
I'm sorry, I have this number as ^fullname^?
Has your childcare centre ever been known by that name?
1       Yes
2       No
3       Not a childcare centre
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         service63
NOLAB
MODULE  SUBMODUL
service2=3
I'm sorry to trouble you, I must have the wrong number

Thanks for your time.
```

```
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service35
LABEL
MODULE  SUBMODUL
service2=2
What's the name of your childcare centre?

And what suburb are you in?

[INTERVIEWER NOTE: Record centre name and suburb]
Name and suburb
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         service46
NOLAB
MODULE  SUBMODUL
service3 ne ''
I was just ringing to speak to your Nominated Supervisor about a child
health survey, but I'll just check these details against our list of
services to call and ring you back if you're one of the service we
need
to speak with.

Thanks for your time.
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service55
LABEL
MODULE  SUBMODUL
service2=1
Ok, What is the NEW name of your centre?

I'll just update our records with that information.

[INTERVIEWER NOTE: Record centre name]
NEW Name
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 6       Intro1  6                       _MAKE_
LABEL
MODULE  SUBMODUL
Service=1 or service5 ne ''
Could I please speak to ^RmLdName^?

[INTERVIEWER NOTE: If they require more info say:
"We recently called your service and talked to the nominated
supervisor
(^SupName^) who provided us with ^RmLdName^'s name and
gave us permission to call back as part of our children's Health
survey.]
1       Speaking to that person
2       Person called to phone
3       Person not avail (record on log sheet)
4       Time not suitable (record on log sheet)
5       Other (record on log sheet)
.R      Refused
Speak to Room Leader?
```

```
********** SINGLE CHOICE - CATI VERSION
**************************
OPEN  1 200     INTROTH 3
LABEL
MODULE  SUBMODUL
INTRO1 = .R
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
********************************
OPEN  1 200     INTROTH_3
LABEL
MODULE  SUBMODUL
INTRO1 = 5
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         INTRO2  10
NOLAB
MODULE  SUBMODUL
INTRO1=1
We're conducting surveys with childcare staff who work
with preschool
aged children, to help us develop, deliver and evaluate
healthy eating
and physical activity initiatives.

We recently called your service and talked to the
nominated
supervisor ^SupName^ who provided us with your name,
and gave us permission to give you a call.

So today I was hoping that we could ask you some
questions about healthy
eating and physical activity for children in your
service.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         INTRO3  11
NOLAB
MODULE  SUBMODUL
INTRO1=2
Hello, my name is ^_INTVR_^ and I'm calling from the
Hunter New
England Local Health District.
[INTERVIEWER NOTE: IF NEEDED "Is that ^RmLdName^?" IF
NOT, RECORD ON L/S]

We're conducting surveys with childcare staff who work
with preschool
aged children, to help us develop, deliver and evaluate
healthy eating
```

```
and physical activity initiatives. We've recently
called your service and
talked to the nominated supervisor (^SupName^) who
provided us with your name, and gave us permission to
give you a call.
So today I was hoping that we could ask you some
questions about healthy
eating and physical activity for children in your
service.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         intro4  5
NOLAB
MODULE  SUBMODUL
INTRO1 in (3,4)
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 3       INTRO5  4                     _MAKE_
LABEL
MODULE  SUBMODUL
INTRO2=1 OR INTRO3=1
The call will take about 10 - 15 minutes.

Is now a good time for you, or can we book in a more
convenient time to
call you back?
1       Yes/appropriate
2       No/Book in time [record on logsheet]
3       No/declined survey
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     INTROTH15
LABEL
MODULE  SUBMODUL
INTRO5=3
OK, thank you for your time.

[INTERVIEWER NOTE:
- If provide reason, record]
- If no reasons given, record "nil"]
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         intro4a 5
NOLAB
MODULE  SUBMODUL
INTRO5 = 2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.
```

```
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 3       Q1      4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO5=1
Thank you so much for agreeing to participate. We'll be
as quick as we can.
Before we begin, I'll just ask a few questions about
your role:

Do you usually work in a room with children aged 3 to 5
years?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       roomname1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1=1
Does this room have a name?
1       Yes
2       No
.R      Refused
Does room have a name?
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     romname11
LABEL
MODULE  SUBMODUL
roomname=1
[INTERVIEWER NOTE: Record name of room, or any identifying details]
Romname
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 3       Rmleadr11                       _MAKE_
LABEL
MODULE  SUBMODUL
roomname in (2 .R) or romname1 ne ' '
Are you the room leader in this room?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         yrs     1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadr1=1
How long have you been the room leader in this room? (To
the nearest year)
0                       30
0                       60
Label_text
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         expr    1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadr1 in (2 .R)
How long have you been working in this room? (To the nearest year)
0                       30
0                       60
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Provinfo2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1 in (2 .R)
Would you be confident to provide us with information about the day-
to-day
healthy eating and physical activity practices for three to five year
olds?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       OtherSP 2                       _MAKE_
LABEL
MODULE  SUBMODUL
Provinfo in (2 .R)
Is there anyone else that we might be able to talk to
who is more familiar
 with these day-to-day practices?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      NamR    5
NOLAB
MODULE  SUBMODUL2
OtherSP=1
What is the name of the Room Leader (or Educator)?

[INTERVIEWER NOTE: - Record first and last name of alternative
contact.

  ** WRITE NAME ON LOGSHEET SO THAT YOU ASK FOR THEM NEXT TIME]
NUMC                    2
First Name                                  C
Last Name                                   C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 3       OtherCon1                       _MAKE_
LABEL
MODULE  SUBMODUL
NamR ne .
```

```
Are they available now?
1       Yes
2       No
.R      Refused
Other Available
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     INTROTH23
LABEL
MODULE  SUBMODUL
OtherCon = .R
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         INTRO3x 10
NOLAB
MODULE  SUBMODUL
Othercon=1
Hello, my name is ^_INTVR_^ and I'm calling from the
Hunter New
England Local Health District.

We're conducting surveys with childcare staff who work
with preschool
aged children, to help us develop, deliver and evaluate
healthy eating
and physical activity initiatives. We've recently
called your service and
talked to the nominated supervisor (^SupName^) who
suggested we call
^RmLdName^ to continue the survey, but given s/he is
unavailable,
I was wondering if we could ask you some questions
about healthy
eating and physical activity for children in your
service.
****************** INFORMATION SCREEN ITEM
********************************
CHCE  1 3       INTRO5x 4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO3x=1
The call will take about 10 - 15 minutes.

Is now a good time for you, or can we book in a more
convenient time to
call you back?
1       Yes/appropriate
2       No/Book in time [record on logsheet]
3       No/declined survey
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     INTROTHx5
LABEL
```

```
MODULE  SUBMODUL
INTRO5x=3
OK, thank you for your time.

[INTERVIEWER NOTE:
- If provide reason, record]
- If no reasons given, record "nil"]
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         intro4x 5
NOLAB
MODULE  SUBMODUL
INTRO5x = 2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.
****************** INFORMATION SCREEN ITEM
*********************************
CHCE  1 3       Q1x     4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO5x=1
Thank you so much for agreeing to participate. We'll be
as quick as we can.
Before we begin, I'll just ask a few questions about
your role:

Do you usually work in a room with children aged 3 to 5
years?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       roomnamx1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1x=1
Does this room have a name?
1       Yes
2       No
.R      Refused
Does room have a name?
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     romnamex1
LABEL
MODULE  SUBMODUL
roomnamx=1
[INTERVIEWER NOTE: Record name of room, or any identifying details]
Romname
****************** OPEN ENDED ENTRY ITEM
*********************************
```

```
CHCE  1 3       Rmleadrx1                       _MAKE_
LABEL
MODULE  SUBMODUL
roomnamx in (2 .R) or romnamex ne ' '
Are you the room leader in this room?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         yrsx    1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadrx=1
How long have you been the room leader in this room? (To
the nearest year)
0                       30
0                       60
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         exprx   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadrx in (2 .R)
How long have you been working in this room? (To the nearest year)
0                       30
0                       60
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Provinfx2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1x in (2 .R)
Would you be confident to provide us with information about the day-
to-day
healthy eating and physical activity practices for three to five year
olds?
1       Yes
2       No
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Thanks1x7
NOLAB
MODULE  SUBMODUL
provinfx in (2 .R)
Thank you for being willing to participate in this survey.

Your responses indicate that you are not one of the people we need to
speak with at this point. We won't trouble you further with these
questions.

Thanks once again for your help. Good bye
```

```
****************** INFORMATION SCREEN ITEM
*******************************
TABL  1 20      ConR    4
NOLAB
MODULE  SUBMODUL2
othercon=2
Can you suggest a day and time that might be convenient for us to
contact them

[INTERVIEW NOTE: Record day and time, or any other helpful
information]
NUMC                    2
Suggested day                                C
Suggested time                               C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         ThanksR 4
NOLAB
MODULE  SUBMODUL
ConR gt .
Thank you for your time. I will call back on later to try and complete
the survey with the person so suggested.

Thanks once again for your help. Good bye
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Thanks1R6
NOLAB
MODULE  SUBMODUL
OtherSP in (2 .R)
Thank you for being willing to participate in this survey.

Your responses indicate that you are not one of the people we need to
speak with at this point. We won't trouble you further with these
questions.

Thanks once again for your help. Good bye
****************** INFORMATION SCREEN ITEM
*******************************
NUM   2         Demog1  2    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
yrs ne . or expr ne . or yrsx ne . or exprx ne . or PROVINFO=1
or Provinfx=1
How long have you been working in the early childhood education
and care sector? (To the nearest year)
0                       30
0                       60
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 7       Demog2  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Demog1>.
What is your highest qualification?

[INTERVIEWER NOTE: Read out all response options]
```

```
1       Year 7-10
2       Year 11-12
3       TAFE
4       Undergraduate university
5       Postgraduate university
6       Other
.R      Refused [DON'T READ]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     Qualothr1
LABEL
MODULE  SUBMODUL
Demog2=6
What is the other qualification you have achieved?
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 7       Demog3  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Demog2 ne . or Qualothr ne ' '
In a typical week, how many days do you work in a room
with 3-5 year olds?

[INTERVIEW NOTE: Round up to nearest day]
1       1
2       2
3       3
4       4
5       5
6       Don't currently work in preschool room
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Info1   11
NOLAB
MODULE  SUBMODUL
Demog3 ne .
We may have also asked some similar questions in the survey for
Nominated Supervisors. However, those questions were about the
policies and practices across your whole service. Today, we are
specifically focused on the  typical practices for
three to five-year-olds in the room in which you work.

We know that practices across and within services are diverse, so
please
select the response that best represents what typically happens in
your room. Please note, that there are no right or wrong answers, and
we are just interested in gaining an accurate picture of what is
actually
happening in preschools across NSW.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         MENU1   2
NOLAB
MODULE  SUBMODUL
```

```
Info1 ne . and SupQ6=3
The first questions are about the drinks that children consume
in your room .
****************** INFORMATION SCREEN ITEM
*****************************
INFO  1         Lunchbx12
NOLAB
MODULE  SUBMODUL
Info1 ne . and SupQ6 in (1,2,4,5)
The first questions are about the foods and drinks that children
consume
in your room.
****************** INFORMATION SCREEN ITEM
*****************************
CHCE  1 5       ALL1    7                       _MAKE_
LABEL
MODULE  SUBMODUL
Lunchbx1 ne . or Menu1 ne .
For the next question, please select the response option
the best
describes what happens at you service.

[NOTE TO INTERVIEWER: If they give multiple response
options, enter the
                     response which is lowest down the
page]

In your room, would you say that THROUGHOUT THE DAY,
drinking water is:
1       Not freely available
2       Available during designated water breaks
3       Easily visible and available on request
4       Easily visible and available for self-serve
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 6       ALL2    3                                       4
MLTLB
MODULE  SUBMODUL
ALL1 gt .
For the next question, please select all responses that
apply.

In your room, would you say that AT MEAL AND SNACK
TIMES:
1       Water is not freely available
2       Children can access water bottles
3       Children can request water
4       Children can serve themselves water
5       Children are provided with water
6       Refused [DO NOT READ OUT]
Availability
not
bottles
request
selfserve
provided
```

```
refused
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 4       PCO3a   4                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(ALL2,1,6) gt '000000' and Lunchbx1=1
Does your service have WRITTEN NUTRITIONAL GUIDELINES
regarding the foods
and drinks brought from home for meals and snacks?

[DO NOT READ RESPONSE OPTIONS]
1       Yes
2       No
3       Don't know
.R      Refused
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 5       PCO3b   4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3a=1
Do educators in your room MONITOR CHILDREN'S LUNCHBOXES
to check that
they're consistent with these nutritional guidelines?

[INTERVIEWER NOTE: READ RESPONSE OPTIONS]
1       No, educators don't monitor lunchboxes
2       Yes - educators monitor, but not using
guidelines, OR
3       Yes - educators monitor using guidelines
4       Don't know [DON'T READ]
.R      Refused [DON'T READ]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 5       PCO3c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3b=3
How often do educators in your room monitor children's lunchboxes to
check
that they're consistent with these nutritional guidelines?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
***************************
NUM   1         PCO3d   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO3c=4
How many days each week?
0                       5
```

```
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 6       PCO3e   3                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3c in (2 3 .R) OR PCO3d gt .
When staff monitor lunchboxes, if children bring foods
and drinks that are
inconsistent with your nutritional guidelines, how often
do educators in
your room PROVIDE FEEDBACK TO FAMILIES?
1       Never
2       Rarely
3       Sometimes
4       Every time
5       Don’t know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NULL  2         Null1   1
NOLAB
MODULE  SUBMODUL
PCO3e ne . or PCO3a in (2 3 .R) or PCO3b in (1 2 4 .r) or PCO3c = 1 or
(substr(ALL2,1,6) gt '000000' and menu1=1)
A comment line goes here.
************************NULL ITEM - DOES
NOTHING************************
INFO  1         PCO5Info9
NOLAB
MODULE  SUBMODUL
Null1=1
The next few questions are about learning experiences
relating to
healthy eating.

When I refer to "planned learning experiences about
healthy eating",
this could include structured learning experiences like:
 - Cooking or tastings,
 - food experiments, or food related craft
 - planned discussion or stories about healthy eating,
and
 - Food themed action songs or rhymes
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 5       PCO5a   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO5Info=1
How often would educators in your room provide PLANNED
LEARNING
EXPERIENCES about healthy eating?
1       Never
2       Less than monthly
3       At least monthly
```

```
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO5b   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO5a=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO5c   5                      _MAKE_
LABEL
MODULE  SUBMODUL
PCO5a in (1 2 3 .R) OR PCO5b gt .
Opportunistic learning experiences could include
educators making links
to healthy eating during story times or mealtimes.

How often would educators in your room provide
OPPORTUNISTIC LEARNING
EXPERIENCES about healthy eating?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO5d   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO5c=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      PC7a    6    MM
LABEL
MODULE  SUBMOD  2
PCO5c in (1 2 3 .R) OR PCO5d gt .
Typically, how much of your ^tottime^ hours of daily
operating time,
do 3 to 5 year old children in your room have for child-
initiated
free play. This includes both indoor and outdoor free
play time.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
```

```
Nmiss                   0
Hours                                       N              0
99
Minutes                                     N              0
59
0                       60
Put label text here. [max 40 char]
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         PCO7Info7
NOLAB
MODULE  SUBMODUL
PC7a ne .
The next couple of questions are about opportunities for
physical activity
among 3 to 5 year olds in your room.

When we talk about children being "active", we mean
where children are:
 - moving their body from one location to another,
 - engaging in fundamental movement skills, or
 - if standing, are at least moving their limbs and
trunk.
****************** INFORMATION SCREEN ITEM
******************************
TABL  1 20      PC7b    5    MM
LABEL
MODULE  SUBMOD  2
PCO7Info ne .
Typically, for how much of the ^PC7aN1^ hours (and
^PC7aN2^ minutes)
of child-initiated, free play time can children be
physically active?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
Nmiss                   0
Hours                                       N              0
99
Minutes                                     N              0
59
0                       60
Put label text here. [max 40 char]
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 6       PCO7c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PC7b ne .
During typical free play time where children can be
active,
what proportion of children are usually active?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
```

```
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO7d   5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO7c ne .
How often would educators in your room provide
STRUCTURED EDUCATOR-LED
physical activity?

This could include circle time, music, dancing or
planned activities to
develop movement skills.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO7e   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO7d=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      PC7f    7    MM
LABEL
MODULE  SUBMOD  2
PCO7d in (1 2 3 .R) OR PCO7e ne .
How much of your ^tottime^ hours of daily operating
time,
do 3 to 5 year old children in your room spend
participating in
STRUCTURED, EDUCATOR-LED physical activity such as
circle time,
music, dancing or planned activities to develop movement
skills?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
Nmiss                   0
Hours                                   N             0
99
Minutes                                 N             0
59
0                       60
Put label text here. [max 40 char]
********************TABLE ENTRY ITEM - NO BUTTONS
************************
```

```
CHCE  1 6       PCO7g   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PC7f ne .
Typically, during STRUCTURED, EDUCATOR-LED physical
activity,
what proportion of children are active?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         PCO8Info4
NOLAB
MODULE  SUBMODUL
PCO7g ne .
The next couple of questions refer to fundamental
movement skills.

These are basic gross motor movement skills such as
running, catching,
jumping, kicking, hopping and ball skills.
******************* INFORMATION SCREEN ITEM
******************************
CHCE  1 5       PCO8a   5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8Info ne .
How often would educators in your room LEAD STRUCTURED
ACTIVITY to develop
fundamental movement skills?

This could be during a transition activity, group or
circle time, outdoor
play, or as part of a specific or fundamental movement
skill activity.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO8b   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO8a=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
```

```
CHCE  1 6       PCO8c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8a in (2,3,.R) OR PCO8b >.
Typically, during educator-led, structured activity to
develop fundamental
movement skills, what proportion of children are
involved?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO9a   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8c >. or PCO8a=1
In your room, how often are television, videos and DVDs,
including
educational programs and videos, viewed by children aged
3 to 5.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO9b   4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO9a=4
How much time each week would children spend watching television,
videos and DVDs?

[INTERVIEWER NOTE: Record in minutes / week]
0                       60
0                       300
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       Q20c    4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO9b >. or PCO9a in (1 2 3 .R)
Would you say that, a written policy on nutrition is:

[INTERVIEWER NOTE: If MOST, but NOT ALL staff follow the policy,
                   choose option 2 'SOME STAFF']
1       Available but not followed by most staff
2       Available but followed only by some staff
3       Available and routinely followed by all staff
4       Not available
```

```
.R      Refused [DO NOT READ OUT]
Written nutrition policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       Q21c    4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q20c ne .
Would you say that, a written policy on physical activity is:

[INTERVIEWER NOTE: If MOST, but NOT ALL staff follow the policy,
                   choose option 2 'SOME STAFF']
1       Available but not followed by most staff
2       Available but followed only by some staff
3       Available and routinely followed by all staff
4       Not available
.R      Refused [DO NOT READ OUT]
Written physical activity policy
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 5       PC11a   3                                       3
MLTLB
MODULE  SUBMODUL
Q21c ne .
At the last orientation session run for children enrolled
in your room, WAS INFORMATION PROVIDED TO PARENTS about
any of the following children's health topics?
1       Healthy eating
2       Physical activity
3       Limiting screen time
-4      None of the above
-5      Don't know [DON'T READ OUT]
Orientation topics
Healthy eating
Physical activity
Limiting screen time
None of the above
Don't Know
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 4       PC11b   3                                       3
MLTLB
MODULE  SUBMODUL
substr(PC11a,1,5) gt '00000'
Aside from orientation, within the past year, was information provided
to
the parents of children in your room about any of the following
children's
health topics?
1       Healthy eating
2       Physical activity
3       Limiting screen time
-4      None of the above
Other topics
Healthy eating
Physical activity
Limiting screen time
None of the above
```

```
******************MULTIPLE CHOICE - CATI
VERSION**************************
CALC  1         PC11bCLC0
LABEL
MODULE  SUBMOD  10              1
substr(PC11b,1,3) gt '000'
length PC11btxt $ 50.;
if PC11b='1000' then PC11btxt='Healthy eating';
else if PC11b='0100' then PC11btxt='Physical activity';
else if PC11b='0010' then PC11btxt='Limiting screen time';
else if PC11b='1100' then PC11btxt='Healthy eating and Physical
activity';
else if PC11b='1010' then PC11btxt='Healthy eating and Limiting screen
time';
else if PC11b='0110' then PC11btxt='Physical activity and Limiting
screen time';
else if PC11b='1110' then PC11btxt='Healthy eating, Physical activity
and Limiting screen time';
PC11btxt=lowcase(strip(PC11btxt));
PC11bCLC=1;
PC11btxt                        C
Information provided to parents
********************** CALCULATION ITEM
*********************************
MULT  1 7       PC11c   4                                       6
MLTLB
MODULE  SUBMODUL
PC11bCLC=1 and PC11btxt gt ''
Aside from orientation, within the past year, through which of the
following ways have you communicated with the parents of children
from your room about:
^PC11btxt^
1       parent information nights
2       mail
3       Email
4       newsletters
5       handouts
6       other methods of communication?
.R      Refused [DO NOT READ OUT]
Communcation Channels
info nights
mail
Email
newsletters
handouts
other
refused
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     PCO11d  1
LABEL
MODULE  SUBMODUL
substr(PC11c,6,1)='1'
What other methods of communication did you use?
Put label text here. [max 40 char]
****************** OPEN ENDED ENTRY ITEM
*********************************
```

```
CHCE  1 7       PCO14a  3                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(PC11c,6,1) = '0' or PCO11d ne ' ' or substr(PC11b,4,1) = '1'
The next few questions are about active play.

In your room, would you say that DURING ACTIVE FREE PLAY
TIME, staff:
1       Never or,
2       Rarely join children in active play
3       Sometimes join children in active play
4       Often or always join children in active play
5       Often or always join children in active play and
6       [CONT] make positive statements about the activity
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       PCO14b  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14a in (2 3 4 5 6)
How often do educators from your room PARTICIPATE
ALONGSIDE CHILDREN IN
ACTIVE PLAY?
1       Less than monthly
2       At least monthly
3       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO14c  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO14b=3
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO14d  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14b in (1 2 .R) OR PCO14c gt .
During typical free play time where children can be
active, how many
educators in your room participate alongside children in
active play?
1       All staff
2       Most staff
3       Some staff
4       No staff
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
CHCE  1 5       PCO15a  5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14d ne . or PCO14a in (1 .R)
How often do educators in your room provide verbal prompts to
encourage or
extend children's activity during child-initiated free active play?

For example, by saying things like "Run hard", "Good throw", or
"Can you do it again"?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO15b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO15a=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO15c  3                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO15a in (2 3 .R) OR PCO15b gt .
During typical free play time, where children can be active, how many
educators in your room provide prompts to encourage or extend
children's activity?
1       All staff
2       Most staff
3       Some staff
4       No staff
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO16a  4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO15c ne . or PCO15a=1
The final few questions are about food and eating behaviours.

How often would educators from your room sit and eat lunch with
the children?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
```

```
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO16b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO16a=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO16c  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16a in (1 2 3 .R) OR PCO16b gt .
On a typical day, in your room do staff members consume
sweets,
salty snacks, or sugary drinks in front of the children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO16d  1                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16c ne .
On a typical day, do staff members consume fruit in front of the
children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO16e  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16d ne .
On a typical day, do staff members consume vegetables in front of the
children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO17a  4                       _MAKE_
LABEL
MODULE  SUBMODUL
```

```
PCO16e ne .
At meal and snack times, how often would educators from your room make
positive comments about healthy foods.

For example "I like carrots too, they're really crunchy".
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Put label text here  [max 40 char]
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO17b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO17a=4
How many days each week?
0                       5
0                       7
Label_text
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       PCO17c  2                      _MAKE_
LABEL
MODULE  SUBMODUL
PCO17a in (2 3) orPCO17b gt .
At meal and snack times, how many educators from this room make
positive
comments about healthy eating?
Some Staff (1-50%)
Most Staff (51-99%)
All Staff (100%)
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         thankyou5
NOLAB
MODULE  SUBMODUL
PCO17a in (1 .R) OR PCO17c gt .
That brings us to the end of the survey.

Thank you so much for answering those questions. The
information you've
provided will be used to help develop, deliver and
evaluate healthy
eating and physical activity programs to children's
services.
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     quescomm3
LABEL
MODULE  SUBMODUL
thankyou=1
Do you have any questions or comments?

[INTERVIEWER NOTE: If no comments, type 'nil']
Questions or comments
```

```
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         FINAL   3
NOLAB
MODULE  SUBMODUL
quescomm ne ''
Thanks so much for your time today.

Have a great day. Goodbye.
****************** INFORMATION SCREEN ITEM
*****************************
TIME  1         T_END   0
LABEL
end     time
final=1
Recording end time
****************** GET DURATION ITEM
************************************
OPEN  1 200     comments4
LABEL
MODULE  SUBMODUL
T_END gt .
[INTERVIEWER NOTE: use this space to record any information that you
think the GFK team should know - Thank you!]

[INTERVIEWER NOTE: If no comments, type 'nil']
Interviewer comments
****************** OPEN ENDED ENTRY ITEM
*********************************
STAT  1         STAT_CQ 1
NOLAB
end     stat
comments gt ''
Completed
CQ
*******************************************************
******************
STAT  1         STAT_CB 1
NOLAB
CB     stat
intro4=1 or intro4a=1 or INTRO5x=1 or intro4x=1
Callback
CB
*******************************************************
******************
STAT  1         STAT_DR 1
NOLAB
DR     stat
introth ne ' ' or INTROTHx ne ' ' or INTROTH1 ne ' ' or
INTROTH2 ne ' '
Refused
DR
*******************************************************
******************
STAT  1         STAT_OP 1
NOLAB
OP      stat
Thanks1x =1
```

```
OTHER PERSON NEEDED
OP
**********************************************************
******************
STAT  1         STAT_OS 1
NOLAB
OS      stat
Thanks1R=1
OUT OF SCOPE
OS
**********************************************************
******************
STAT  1         STAT_OT 1
NOLAB
OT      stat
INTROTH_ ne ' ' or service4=1
Other
OT
**********************************************************
******************
STAT  1         STAT_WN 1
NOLAB
OT      stat
service6=1
WRONG NUMBER
WN
**********************************************************
******************
INFO  1         Status1 3
NOLAB
MODULE  SUBMODUL
stat_cq='CQ'
THIS INTERVIEW IS A "CQ". WELL DONE!

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************** INFORMATION SCREEN
****************************
INFO  1         Status2 3
NOLAB
MODULE  SUBMODUL
stat_cb='CB' or Thanksr=1
THIS INTERVIEW IS A "CB".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************** INFORMATION SCREEN
****************************
INFO  1         Status3 3
NOLAB
MODULE  SUBMODUL
stat_DR='DR'
THIS INTERVIEW IS A "DR".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************** INFORMATION SCREEN
****************************
```

```
INFO  1         Status4 4
NOLAB
MODULE  SUBMODUL
stat_OS='OS'
THIS INTERVIEW IS AN "OS".
THERE IS NO ONE AT THIS CENTRE WHO CAN PROVIDE THIS
INFORMATION.

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status5 5
NOLAB
MODULE  SUBMODUL
stat_OP='OP'
THIS INTERVIEW IS AN "OP".
ANOTHER PERSON IS NEEDED TO COMPLETE INTERVIEW.

PLEASE RECORD ON THE LOGSHEET & FILE LOGSHEET UNDER
'PROBLEMS'.
PRESS 'NEXT' to COMPLETE INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status6 3
NOLAB
MODULE  SUBMODUL
stat_OT='OT'
THIS INTERVIEW IS AN "OT".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status7 3
NOLAB
MODULE  SUBMODUL
stat_WN='WN'
THIS INTERVIEW IS AN "WN".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  2         TERM    2
NOLAB
END     Term
status1=1 or status2=1 or status3=1 or status4=1 or
status5=1
or status6=1 or status7=1
INTERVIEWER TERMINATION INSTRUCTION, PRESS STOP
AND RECORD OUTCOME OF INTERVIEW ON LOG
************************* INFORMATION SCREEN
****************************


TITL  0         supervis1       CATI                7     NAME
NOLAB
```

```
MODULE  SUBMODUL
Nominated Supervisors
************************ TITLE ITEM
************************************
TIME  0         t_start 1
LABEL
MODULE  SUBMODUL
This records Duration to Current point
Starting Time
****************** GET DURATION ITEM
************************************
LINK  1         CENTRENM1       QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL        6
T_start ne .
Items in external dataset
DATACATI.CENTRENM            CENTRENM            D
DATACATI.CENTRENM            SupName             D
DATACATI.CONFID              RmLdName
DATACATI.CONFID              RmName12
DATACATI.CONFID              TimeGp
DATACATI.CONFID              Valstudy
Links to external database
***************** LINK TO EXTERNAL DATASET ITEM
****************************
CHCE  1 2       service 4                      _MAKE_
LABEL
MODULE  SUBMODUL
CENTRENM gt ''
Hello, my name is ^_INTVR_^ and I'm from Hunter New England Local
Health District.

Is that ^CENTRENM^?
1       Yes
2       No
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       service22                      _MAKE_
LABEL
MODULE  SUBMODUL
service=2
I'm sorry, I have this number as ^CENTRENM^?
Has your childcare centre ever been known by that name?
1       Yes
2       No
3       Not a childcare centre
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         service64
NOLAB
MODULE  SUBMODUL
service2=3
I'm sorry to trouble you, I must have the wrong number

Thanks for your time.
```

```
                    *** Record on log sheet as WN ***
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service35
LABEL
MODULE  SUBMODUL
service2=2
What's the name of your childcare centre?

And what suburb are you in?

[INTERVIEWER NOTE: Record centre name and suburb]
Name and suburb
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         service47
NOLAB
MODULE  SUBMODUL
service3 ne ''
I was just ringing to speak to your Nominated Supervisor about a child
health survey, but I'll just check these details against our list of
services to call and ring you back if you're one of the service we
need
to speak with.

Thanks for your time.
                    *** Record on log sheet as OP ***
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200   U service55
LABEL
MODULE  SUBMODUL
service2=1
Ok, What is the NEW name of your centre?

I'll just update our records with that information.

[INTERVIEWER NOTE: Record centre name]
DATACATI.CENTRENM            CENTRENM            S
NEW Name
****************** OPEN ENDED ENTRY ITEM
*********************************
CALC  1 C     U CentreNF0
NOLAB
MODULE  SUBMOD  3               1
Service = 1 or service5 ne ''
length CentreNF $50.;
if service5='' then CentreNF =strip(CentreNM);
else CentreNF=strip(service5);
CentreNF                        C
DATACATI.CENTRENM            CentreNM            S
********************** CALCULATION ITEM
*********************************
CHCE  1 3       Intro1  7                      _MAKE_
LABEL
MODULE  SUBMODUL
CentreNF gt ''
We recently sent the Nominated Supervisor a letter about a follow up
```

```
health survey we're conducting in children's services.
Today, I'm just following up on the letter and was hoping to
speak to ^SupName^.

Is ^SupName^ still the nominated supervisor for
^CENTRENF^?
1       Yes
2       No
.R      Refused
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200   U NewNS   3
LABEL
MODULE  SUBMODUL
Intro1 in (2,.R)
Who is the new nominated supervisor?

*** Please record on logsheet ***
DATACATI.CENTRENM            SUPNAME             S
New nominated supervisor name
****************** OPEN ENDED ENTRY ITEM
*********************************
CALC  1 C     U SupNameF0
NOLAB
MODULE  SUBMOD  3               1
Intro1 = 1 or NewNS ne ''
length SupNameF $50.;
if NewNS='' then SupNameF=strip(SupName);
else SupNameF=strip(NewNS);
SupNameF                        C
DATACATI.CENTRENM            SupName             S
********************** CALCULATION ITEM
*********************************
CHCE  1 7       NSavail 1                      _MAKE_
LABEL
MODULE  SUBMODUL
SupNameF gt ''
Could I please speak to ^SupNameF^?
1       Speaking to that person
2       Person called to phone
3       Person not available (record on log sheet)
4       Time not suitable (record on log sheet)
5       Other (record on log sheet)
6       Requests letter before continuing
.R      Refused
Could I please speak to the NS?
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Intro2a 2
NOLAB
MODULE  SUBMODUL
NSavail = 2
Hello, my name is ^_INTVR_^ and I'm from Hunter New England
Local Health District.
****************** INFORMATION SCREEN ITEM
******************************
```

```
INFO  1         Intro2b 6
NOLAB
MODULE  SUBMODUL
NSavail = 1 or Intro2a = 1
We recently sent you a letter advising you that we would be contacting
you soon regarding a follow up health survey in children's services.

The letter advised that the survey was about opportunities for
children's services to promote physical activity and healthy eating
to children.
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 5       Intro3  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Intro2b = 1
The survey should take about 20 minutes.

Is now a good time for you or would you like me to call back later?
1       Yes/Appropriate
2       No/Call back later
3       Requests copy of letter before continuing
4       No/Declined survey
.R      Refused
Appropriate time
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     refused 6
LABEL
MODULE  SUBMODUL
nsavail=.R or Intro3=.R
OK, thank you for your time.

[Do not ask, but record reason if given,
                     if no reason given - record 'nil']

                   *** Record on log sheet as DR ***
Refused Reason
****************** OPEN ENDED ENTRY ITEM
********************************
OPEN  1 200     res_oth 6
LABEL
MODULE  SUBMODUL
nsavail = 5
OK, thank you for your time.

[Do not ask, but record reason if given,
                     if no reason given - record 'nil']

                   *** Record on log sheet as OT ***
Other Reason
****************** OPEN ENDED ENTRY ITEM
********************************
OPEN  1 200     decline 5
LABEL
MODULE  SUBMODUL
INTRO3=4
OK, thank you for your time
```

```
[If provide reason - record, if no reason provided - record 'nil']]

                    *** Record on log sheet as DR ***
Decline to participate
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 3       Letter  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Intro3=3 or nsavail=6
Sure, I can send you another copy.

Would you prefer email, mail or fax?
1       Email
2       Mail
3       Fax
Letter
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      let1    3
LABEL
MODULE  SUBMODUL2
Letter=1
Can I have your email address?

[INTERVIEWER NOTE: - Record Email and First name
NUMC                    2
Email                                       C
Name                                        C
EMAIL
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 10      let2    4
LABEL
MODULE  SUBMOD  3
Letter=2
Can I have your postal address?

[INTERVIEWER NOTE: - Check against address printed on the logsheet
 Record new address - check spelling.]
numc                    3
Street                                      C
Suburb                                      C
Postcode                                    C
Current address
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      let3    3
LABEL
MODULE  SUBMODUL2
Letter=3
Can I have your fax number?

[INTERVIEWER NOTE: - Record fax & First name - double check number]
NUMC                    2
Fax number                                  C
Name                                        C
```

```
FAX NUMBER
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       continue4                       _MAKE_
LABEL
MODULE  SUBMODUL
Let1 ne . or Let2 ne . or Let3 ne .
I'll send that off as soon as possible.

Would you be willing to continue the survey today, or would you prefer
us to call you back once you've had a chance to read the letter?
1       Yes - continue survey
2       No - arrange callback
Continue survey
***************** SINGLE CHOICE - CATI VERSION
***************************
INFO  1         callback8
NOLAB
MODULE  SUBMODUL
Intro3 = 2 or nsavail in (3,4) or continue=2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet
If faxing/emailing - can arrange callback in minimum of 2 days time
If mailing letter - can arrange callback in minimum of 5 days time]

Thank you very much for your time. Goodbye.
                  *** Record on log sheet as CB ***
****************** INFORMATION SCREEN ITEM
*******************************
TABL  1 20      Name    6
NOLAB
MODULE  SUBMODUL2
Intro3= 1 or continue=1
Great, thanks for agreeing to participate.
Before we begin, can I ask your name?

[INTERVIEWER NOTE: - Record first and last name of Nominated
Supervisor
or equivalent. Check spelling. If they comment that they've already
provided their name, say that we are just confirming everyone's
details]
NUMC                    2
First Name                                  C
Last Name                                   C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 3       roomcall9                       _MAKE_
LABEL
MODULE  SUBMODUL
Name gt .
Similar to the surveys we conducted last year with your service,
within the coming months we were also hoping to talk to a room leader
or educator in your preschool room. We have some different questions
for
them focused on the day-to-day practices for 3 to 5 year olds.

The room leader's survey takes about 15 minutes and can be
```

```
scheduled for the most convenient time for them. Do I have your
permission to contact an appropriate Educator from your service?
They are free to say no when we contact them.
1       Yes - consent to contact
2       No - do not consent contact
3       N/A - do not have 3 - 5 year olds
OK to contact
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Roomcal24                       _MAKE_
LABEL
MODULE  SUBMODUL
Roomcall = 1 and Rmname12 gt ''
Previously we have spoken with ^RmLdName^ at your service, about
the ^Rmname12^ room.

Do you still have the ^Rmname12^ room at your service?
1       Yes
2       No, room NAME has changed (but functionally still same room)
3       No, room no longer exists (functionally NOT same room)
Do you still have ^Rmname12^
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Noroom  4                       _MAKE_
LABEL
MODULE  SUBMODUL
Roomcall = 1 and Rmname12 = ''
Previously we have spoken with ^RmLdName^ at your service, about
a room for 3-5 year olds.

Does ^RmLdname^ still work in the same room for 3-5 year olds?
1       Yes
2       No, room NAME has changed (but functionally still same room)
3       No, they don't
Does rm leader still work in same room?
 ***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     NewRmNme1
LABEL
MODULE  SUBMODUL
Roomcal2= 2
What is the new name of the 3-5 room?
New name of 3-5 room
******************* OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 2       Stilrmld1                       _MAKE_
LABEL
MODULE  SUBMODUL
Noroom in (1,2)
Is ^RmLdname^ still the room leader for this 3-5 room?
1       Yes
2       No
Is previous rm leadr still 3-5 rm ldr?
 ***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       Roomldr 1                       _MAKE_
LABEL
MODULE  SUBMODUL
```

```
Roomcal2 = 1 or NewRmNme ne ''
Is the room leader still ^RmLdname^?
1       Yes
2       No
Is room leader still ^RmLdname^?
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     Roomld  1
LABEL
MODULE  SUBMODUL
Roomldr = 2
Who is the current room leader for this room?
Current room leader for specified room
******************* OPEN ENDED ENTRY ITEM
*********************************
NUM   1         Rooms   12   MM
LABEL
MODULE  SUBMODUL
Roomcal2 = 3 or Noroom=3 or Stilrmld=2
If possible, we'd like to select a Room Leader or Educator for a 3-5
room
at random. In order to do that, could you please tell me how many
rooms
there are at your service for 3 - 5 year-olds?

[INTERVIEWER NOTE: ie. Number of rooms containing ONLY children aged
3-5yrs. If the room contains any children aged 0,1, or 2, it should
not
be included.(Only rooms containing 3,4 and/or 5yr olds,
so this would NOT include 0-2s, 2-4s, 2-3s, etc.)]

[INTERVIEWER NOTE: If there is only one room with 3-5yr old children,
enter "1" & USE THIS ROOM. If there is more than one room for 3-5yr
olds,
enter the number of eligible rooms.]
0                       10
0                       100
Number of Rooms
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Random1 6                       _MAKE_
LABEL
MODULE  SUBMODUL
Rooms ge 2
Can you think of the room leaders of those ^Rooms^ rooms, and tell me
the name of the room leader who had the last birthday?

[INTERVIEWER NOTE: Help out if possible. The Nominated Supervisor CAN
pick
someone else if the person picked during randomisation is not suitable
-
but it's preferable to have randomised selection]
1       they CAN name the person with the last birthday
2       they CANNOT name the person with the last birthday
3       they WILL NOT name person with last b'day (choose)
Remembers last birthday
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
CHCE  1 2       Random2 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Random1 in (2,3)
Can you think of a Room Leader or Educator at your service who works
with 3 to 5 year olds and would be able to provide information about
their day-to-day routines?
1       Yes
2       No
Recommends RL/Educator
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      Ran3    4
NOLAB
MODULE  SUBMODUL2
Rooms=1 or Random2=1 or Random1=1
What is the name of the Room Leader (or Educator)?

[INTERVIEWER NOTE: - Record first and last name of Room Leader
or equivalent. Check spelling.]
NUMC                    2
First Name                                      C
Last Name                                       C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         Random5a10
NOLAB
MODULE  SUBMODUL
Ran3 ne . or Roomld ne ''
Thanks very much. Along with your letter, we also included a letter
for
the Room Leader. Could you please pass this letter on and we'll phone
them in the next few months to arrange a time to do the survey.

The survey should take about 15 minutes to complete and can be
scheduled at the most convenient time for them.

[INTERVIEWER NOTE: If they want another copy of the letter resent
to the Room Leader, record the details on the logsheet in the
"Room Leader" column.]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         Random5b10
NOLAB
MODULE  SUBMODUL
Roomldr=1 or Stilrmld=1
Thanks very much. Along with your letter, we also included a letter
for
the Room Leader. Could you please pass this letter on and we'll phone
^RmLdname^ in the next few months to arrange a time to do the survey.

The survey should take about 15 minutes to complete and can be
scheduled at the most convenient time for them.

[INTERVIEWER NOTE: If they want another copy of the letter resent
to the Room Leader, record the details on the logsheet in the
"Room Leader" column.]
```

```
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Random6 1
NOLAB
MODULE  SUBMODUL
Random2=2 or roomcall=2
Ok, that's fine. We appreciate your time and assistance today.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Random7 1
NOLAB
MODULE  SUBMODUL
roomcall=3
Ok, that's fine.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Begin   1
NOLAB
MODULE  SUBMODUL
random5a=1 or random5b=1 or random6=1 or random7=1
If it's OK with you, we'll begin the survey.
****************** INFORMATION SCREEN ITEM
*******************************
MULT  1 10      Q1      4                                       8
MLTLB
MODULE  SUBMODUL
Begin = 1
Firstly, could you please confirm your position?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Director
2       Nominated / Authorised Supervisor
3       Room Leader (Preschool room)
4       Room Leader (Toddlers room)
5       Room Leader (Infants room)
6       Committee Member
7       Service owner
8       Other (Please Specify)
-9      Don't Know [DO NOT READ OUT]
-10     Prefer not to say [DO NOT READ OUT]
Position
Director
Nominated Supervisor
Room Leader (Preschool room)
Room Leader (Toddlers room)
Room Leader (Infants room)
Committee Member
Service owner
Other (Please Specify)
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q1_open 1
LABEL
MODULE  SUBMODUL
Substr(Q1,8,1) gt '0'
```

```
Please Specify Other
Refused Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
NUM   1         Yrswork 5    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q1 gt '0000000000' and Substr(Q1,8,1)='0' or Q1_open ne ' '
Could you please let me know how long have you been working
in this position with this service?

[INTERVIEWER NOTE: Record time IN YEARS
do not read out: 'Don't know'=999, 'Prefer not to say'=888,
'Refused'=777]
0                       50
0                       1000
Years in that position at service
******************* NUMERIC OR DATE ENTRY - CATI VERSION
******************
MULT  1 6       Q2      4                                          4
MLTLB
MODULE  SUBMODUL
Yrswork gt .
Which of the following age groups does your service care for?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Children under 1 year
2       1 year olds
3       2 year olds
4       3 to 5 year olds
-5      Don't Know [DO NOT READ OUT]
-6      Prefer not to say [DO NOT READ OUT]
Care for age groups
Under 1 year olds
1 year olds
2 year olds
3 to 5 year olds
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 5       Q5      3                                          3
MLTLB
MODULE  SUBMODUL
Substr(Q2,1,6) gt '000000'
Which of the following best describes your service?

[INTERVIEWER NOTE: Read out all response options]
1       Preschool
2       Long day care centre
3       Occasional Care
-4      Don't Know [DO NOT READ OUT]
-5      Prefer not to say [DO NOT READ OUT]
Type of Service
Preschool
Long day care centre
Occasional Care
```

```
Don't Know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NUM   1         Q3      6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Substr(Q5,1,5) gt '00000'
Overall, how many allocated places for children do you have at your
service?

[INTERVIEWER NOTE:
- record NUMBER OF PLACES PER DAY
- do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Allocated Places
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q3a     4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q3 ne .
Overall, how many children are enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
0                       1000
Number enrolled
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 4       ATSI    4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q3a ne .
Are you aware of any children of Aboriginal or Torres Strait Islander
origin enrolled at your service?

[INTERVIEWER NOTE: Do not read out response options]
1       Yes
2       No
3       Don’t Know
.R      Refused
Any Aboriginal or Torres Strait children
***************** SINGLE CHOICE - CATI VERSION
**************************
NUM   1         atsinum 5    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSI = 1
How many children of Aboriginal or Torres Strait Islander origin are
enrolled at your service?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       400
```

```
0                       1000
Number Aboriginal or Torres Strait children
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q4open  3    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
ATSInum ne . or ATSI in (2,3,.R)
How many days a week are you open?

[INTERVIEWER NOTE: If varies from week to week, enter average days/wk]
0                       7
0                       1000
Number of days open
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      Q4      8    MM
NOLAB
MODULE  SUBMODUL2
Q4open ne .
What are your service hours of operation?

[INTERVIEWER NOTE: Use 24 hour time
0.5 for 30 minutes, 0.25 for 15 minutes, 0.75 for 45 minutes

- 3pm = 15      4pm = 16
- 5pm = 17      6pm = 18
- 7pm = 19      8pm = 20]
Nmiss                   0
Opening Time                                N             0
24
Closing Time                                N             0
24
0                       1000
**********TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 2       elig1a  6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q4 ne .
Is your service part of a DEC primary or central school?

[INTERVIEWER NOTE: DEC = 'Department of Environment & Community'
ONLY answer YES if they are located within a DEC facility.
While all childcare centres are licensed by DEC, there are only a few
services attached to DEC schools.]
1       Yes
2       No
Eligibility: DEC service
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       elig2a   1                      _MAKE_
LABEL
MODULE  SUBMODUL
elig1a=2
Do you enrol children with special needs?
1       Yes
2       No
```

```
Eligibility: special needs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       elig2b   1                      _MAKE_
LABEL
MODULE  SUBMODUL
elig2a=1
Does your service also enrol children without special needs?
1       Yes
2       No
Eligibility: special needs
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         elig1b  9
NOLAB
MODULE  SUBMODUL
elig1a=1 or elig2b=2
Ok, that means that your service isn't one that we need to collect
this information from, so we won't actually proceed with this
survey today.

However, you will still be able to access support
to implement healthy eating and physical activity policies and
practices
in your service.

Your Local Health District will have more information about this.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         elig1c  3
NOLAB
MODULE  SUBMODUL
elig1b=1
Thank you so much for your time today

                   *** Record on log sheet as OS ***
****************** INFORMATION SCREEN ITEM
******************************
CALC            tottime 0
NOLAB
MODULE  SUBMODUL1
elig2a = 2 or elig2b=1
Tottime = Q4N2 - Q4N1;
************************************************
INFO  1         pipeline6
NOLAB
MODULE  SUBMODUL
tottime ne .
A member of the Good for Kids team may request to visit your service
in the coming months, to observe and learn more about the healthy
eating
and physical activity policies and practices that you will be
asked about in this survey.

We'll start with some questions about your service.
****************** INFORMATION SCREEN ITEM
******************************
```

```
CHCE  1 5       Q6      4                       _MAKE_
LABEL
MODULE  SUBMODUL
pipeline=1
The next questions are about meals and snacks.

Do families provide food for any meals or snacks when their child
attends your service?
1       Yes, all meals and snacks
2       Yes, some meals and snacks
3       No, service provides all meals and snacks
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Provide food for meals and snacks
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       menu    8                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 in (2,3,4,5)
The next questions are about the foods and drinks on your service's
menu.
Could you please refer to last week's menu when you answer these
questions.
Do you have a copy of LAST WEEKS' menu in front of you?

[INTERVIEWER NOTE: Prompt with 'do you think it would be easier for
you
to get a copy to have in front of you for this survey?' Allow
respondent
time to find. If they can't, select 'NO' and continue with this
interview
NB. It's OK if it's the menu from this week too].
1       Yes
2       No
Menu in front of you
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 6       t_day   4                                       6
MLTLB
MODULE  SUBMODUL
Menu ne .
On a typical day, what meals and snacks would your service provide
to children?

[INTERVIEWER NOTE: Read out all response options]
1       Breakfast
2       morning tea
3       lunch
4       afternoon tea
5       dinner
6       Other (Please specify)
Meals and snacks provided
Breakfast
morning tea
lunch
afternoon tea
dinner
```

```
Other (Please specify)
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     typ_oth 1
LABEL
MODULE  SUBMODUL
Substr(t_day,6,1)='1'
Please specify other type of meal
Other Reason
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 8       Q7      2                       _MAKE_
LABEL
MODULE  SUBMODUL
typ_oth ne '' or (substr(t_day,1,6) gt '000000' and
substr(t_day,6,1)='0')
In the past week, how often did you serve fruit, including fresh,
frozen
or canned in natural juice, BUT NOT INCLUDING juice or fruit drinks?
1       Never
2       Rarely
3       2 times per week or less
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve fruit
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q8      3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q7 gt .
In the past week, how often did you serve vegetables, including fresh,
frozen or canned, BUT NOT including chips, french fries or potatoes
that
your service cooks in oil?
1       Never
2       Rarely
3       2 times per week or less
4       3-4 times per week
5       1 time per day
6       2 or more times per day
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
How often serve vegetables
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 18      Q9       5                                      12
MLTLB
MODULE  SUBMODUL
Q8 gt .
In the last week which of the following foods, if any, did your
service
provide during the day? This includes for snacks or at meals.

Please select all that apply
```

```
[INTERVIEWER NOTE: Read out all response options]
1       Fruit or vegetable pieces or platters
2       Confectionary, chocolate, ice cream
3       Fruit bread (e.g. raisin toast), English or
4       [CONT] fruit muffins or pikelets
5       Iced or creamed cakes, lamingtons or donuts
6       Wholegrain or rice crackers or rice cakes
7       Potato chips, corn chips, cheese flavoured snacks
8       [CONT] (such as Twisties or Cheezels).
9       Plain popcorn (no added fat),
10      [CONT] oven baked chips (not oiled)
11      Unsalted pretzels
12      Salted pretzels
13      French fries, hash browns, hot chips (cooked in oil)
14      Dairy snacks (such as yoghurt, cheese, custard)
15      Sweet biscuits with chocolate or cream filling
-16     None of the above
-17     Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
Foods which service provided last week
Fruit or vegetable pieces or platters
Confectionary, chocolate, ice cream
Fruit bread (e.g. raisin toast), English or
[CONT] fruit muffins or pikelets
Iced or creamed cakes, lamingtons or donuts,
Wholegrain or rice crackers or rice cakes
Potato chips, corn chips, cheese flavoured snacks
[CONT](such as Twisties or Cheezels).
Plain popcorn (no added fat),
[CONT] oven baked chips (not oiled)
Unsalted pretzels
Salted pretzels
French fries, hash browns, hot chips (cooked in oil)
Dairy snacks (such as yoghurt, cheese, custard)
Sweet biscuits with chocolate or cream filling
None of the above
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 4       SPECOCC 3                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(Q9,1,15) gt '000000000000000'
Were there any special occasions in the last week, where any of these
foods
were provided to children, but would not normally be provided?
For example for a birthday celebration
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Any special occasions last week
***************** SINGLE CHOICE - CATI VERSION
**************************
NULL  1         null_9  0
NOLAB
MODULE  SUBMODUL
```

```
SPECOCC gt . or substr(Q9,16,3) gt '000'
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q10     1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q6 = 1 or (Q6 in (2,4,5) and Null_9 = 1)
Does your service monitor lunchboxes?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Monitor lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 7       Q10a    2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10=1
How often do educators monitor the lunchboxes of all children to check
the foods or drinks packed by families?
1       Once per week or less
2       2 times per week
3       Three times per week
4       Four times per week
5       Everyday
6       Don't know [DO NOT READ OUT]
7       Prefer not to say [DO NOT READ OUT]
Educators monitor / check lunchboxes
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Guidline3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q10a in (1,2,3,4,5,6,7) or Q10 in (2,3,4)
Does your service have written nutritional guidelines for families
regarding recommended food and drinks brought from home for meals
and snacks?
1       Yes
2       No
3       Don't Know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Written nutritional guidelines
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       provide 3                       _MAKE_
LABEL
MODULE  SUBMODUL
Guidline = 1
In the last 12 months, has your service provided all families with
a copy of the nutritional guidelines regarding recommended foods and
drinks brought from home?
1       Yes
2       No
3       Don't Know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Copy of nutritional guidelines
```

```
********** SINGLE CHOICE - CATI VERSION
**************************
NULL  2         nulla   0
NOLAB
MODULE  SUBMODUL
Provide in (1,2,3,.R) or Guidline in (2,3,.R) or
(Q6 = 3 and Null_9 = 1)
************************NULL ITEM - DOES
NOTHING************************
MULT  1 9       Q11     4                                       6
MLTLB
MODULE  SUBMODUL
Nulla = 1
What drinks, if any, does your service provide during the day?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Fruit juice or fruit drink including 100% fruit juice
2       Cordial
3       Water
4       Plain milk
5       Flavoured milk
6       Soft drink
-7      No drinks provided
-8      Don't know [DO NOT READ OUT]
-9      Prefer not to say [DO NOT READ OUT]
Drinks provided during the day
Fruit juice or fruit drink (includes 100% fruit juice)
Cordial
Water
Plain milk
Flavoured milk
Soft drink/flavoured mineral/soda water
No drinks provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
MULT  1 4       Q12     2                                       2
MLTLB
MODULE  SUBMODUL
substr(Q11,4,1) gt '0' and substr(Q2,3,4) gt '0000'
What type of plain milk do you provide for children 2 years of age
and older? Please select all that apply.
1       Full cream
2       Reduced Fat (including lite, low fat and no fat milk)
-3      Don't know [DO NOT READ OUT]
-4      Prefer not to say [DO NOT READ OUT]
Type of Milk provided
Full Cream
Reduced Fat
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
NULL  2         nullw   0
NOLAB
MODULE  SUBMODUL
```

```
(substr(Q11,4,1) gt '0' and substr(Q2,3,4) = '0000')
or substr(Q11,4,1) = '0' or substr(Q12,1,4) gt '0000'
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 8       Q13     8                       _MAKE_
LABEL
MODULE  SUBMODUL
nullw=1
How often are structured and specific learning experiences about
healthy
eating implemented as part of your curriculum/program (e.g.
experiential
activities about food knowledge or skills such as cooking, stories,
and vegetable gardens)?

[Interviewer note: this also includes experiential activities about
food,
such as food growing, planting seeds, discussion around 'everyday' and
'sometimes' foods, and puzzles and books about food]
1       Never
2       Rarely
3       Monthly
4       Once per week
5       2-4 times per week
6       Daily
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Specific Learning Experiences
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 8       Q14     5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='1'
The next question is about play time for babies at your service.

How many days in the past week were babies (birth - 12 months of age)
provided with supervised floor based play time where they were on
their tummies?
1       Never
2       1 Day
3       2 Days
4       3 Days
5       4 Days
6       Everyday (or every day the service is open)
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Supervisor floor based play time
***************** SINGLE CHOICE - CATI VERSION
****************************
NULL  2         nullx   0
NOLAB
MODULE  SUBMODUL
Q14 in (1,2,3,4,5,6,7,8) or
(Q13 in (1,2,3,4,5,6,7,8) and Substr(Q2,1,1)='0')
************************NULL ITEM - DOES
NOTHING************************
```

```
INFO  1         Q15info 6
NOLAB
MODULE  SUBMODUL
(Nullw=1 and substr(Q2,3,4) gt '0000') or nullx=1
The next couple of questions are about the amount of time available
for
physical activity during a usual day for toddlers and preschool age
children.

These questions specifically relate to children aged 1-5 years, in
your
care.
****************** INFORMATION SCREEN ITEM
*****************************
TABL  1 20      Q15     8    MM
NOLAB
MODULE  SUBMODUL2
Q15info = 1
You mentioned earlier that your service is open for about ^tottime^
hours
each day.
On average how much time each day, do children spend participating in
educator led structured active play such as circle time, music,
dancing
or planned activities to develop movement skills?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
100
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      Q16     6    MM
NOLAB
MODULE  SUBMODUL2
Q15 ne .
And on average how much time each day do children have available to
spend in child-initiated, free physically active play?  This includes
both indoor and outdoor free active play.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
99
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
TABL  1 20      Oply    4    MM
NOLAB
MODULE  SUBMODUL2
Q16 gt .  and (Q16N1 gt 0 or Q16N2 gt 0)
```

```
And on average, how much of this time each day is outdoor play?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                                   N              0
99
Time in Minutes                                 N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  1         nully   1
NOLAB
MODULE  SUBMODUL
Oply gt . or Q16 gt .  and (Q16N1=0 and Q16N2=0)
Nullw=1 and substr(Q2,4,3) = '000'
************************NULL ITEM - DOES
NOTHING************************
INFO  1         Q17info 10
NOLAB
MODULE  SUBMODUL
nully=1 and substr(Q2,4,3) gt '000'
The next question refers to the development of Fundamental Movement
Skills (FMS) of children aged 3-5 years at your service.

For the purposes of this survey, FMS refers to basic gross motor
movement
skills such as running, catching, jumping, kicking and the like.

[IF NECESSARY: It also includes galloping, leaping, hopping, ball
dribbling, side-sliding, striking a ball, underarm rolling and over
arm throwing. Development of such skills involves educators
explaining,
demonstrating and providing feedback to children for each skill.]
******************* INFORMATION SCREEN ITEM
******************************
CHCE  1 8       Q17     6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q17info = 1
On how many days in the last week did your service Educators lead
structured activity to develop Fundamental Movement Skills for all
children at your service?

This could have been during a transition activity, group or circle
time or during outdoor play.
1       Never
2       1 Day
3       2 Days
4       3 Days
5       4 Days
6       Everyday
7       Don't know [DO NOT READ OUT]
8       Prefer not to say [DO NOT READ OUT]
Lead structured activity
***************** SINGLE CHOICE - CATI VERSION
***************************
```

```
NUM   1         Q17a    6    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q17 in (2,3,4,5,6,7,8)
On days where structured activities to develop Fundamental Movement
Skills
occurred what percentage of the 3 to 5 year olds at your service would
usually participate?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       100
0                       1000
Percentage of children participating
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NULL  1         null_A  0
NOLAB
MODULE  SUBMODUL
Q17a ne . or Q17=1 or (nully=1 and substr(Q2,4,6) = '000')
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 9       Q18     7                       _MAKE_
LABEL
MODULE  SUBMODUL
null_A and substr(Q2,4,3) gt '000'
The next questions refer to time spent watching TV, videos or DVD by
3 to 5 year olds.

On average, on how many days each week would children spend time
watching just television, videos or DVDs?

[Interviewer note:  NOT computers, electronic games, ipads/tablets.]
1       Never
2       Less than 1 day a week
3       1 day
4       2 days
5       3 days
6       4 days
7       Everyday
8       Don't know [DO NOT READ OUT]
9       Prefer not to say [DO NOT READ OUT]
SSR days per week
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 7       Q18a    6                                       5
MLTLB
MODULE  SUBMODUL
Q18 in (2,3,4,5,6,7,8,9)
For which of the following purposes do children aged 3 to 5 years at
your
service spend time watching just television, videos or DVDs?
Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
- read 'info re:' as 'INFORMATION ABOUT A specific learning area'
1       To gain knowledge/share info re:a specific learnin area
2       For child amusement, enjoyment or entertainment
```

```
3       To facilitate exploration of activity,dance or movement
4       For "down time" or "quiet time"
5       For another purpose
-6      Don't know [DO NOT READ OUT]
-7      Prefer not to say [DO NOT READ OUT]
Purposes for watching Videos
To gain knowledge / share information about a specific learning area
For child amusement, enjoyment or entertainment
To facilitate exploration of activity, dance or movement
For "down time" or "quiet time"
For another purpose
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
********************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Q18ai   1
LABEL
MODULE  SUBMODUL
Substr(Q18a,5,1) = '1'
Please specify the other purpose
SSR use - other purpose
******************* OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 9       SSR2    6                       _MAKE_
LABEL
MODULE  SUBMODUL
Q18=1 or (substr(Q18a,5,1)='0') or Q18ai gt ''
On average, on how many days each week would children spend time
watching
television, videos or DVDs, or *ALSO* using computers, other
electronic
games, iPads or tablets?


[INTERVIEWER NOTE: everything except smartboards / electronic
whiteboards]
1       Never
2       Less than 1 day a week
3       1 day
4       2 days
5       3 days
6       4 days
7       Everyday (or every day the service is open)
8       Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
All SSR use days per week
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 7       SSR2a   7                                       5
MLTLB
MODULE  SUBMODUL
SSR2 ne 1
For which of the following purposes do children aged 3 - 5 years at
your
service spend time watching television, videos or DVDs, or using
computers,
electronic games, iPads or tablets?
```

```
Please select all that apply.

- read 'info re:' as 'INFORMATION ABOUT A specific learning area'
1       To gain knowledge/share info re:a specific learning area
2       For child amusement, enjoyment or entertainment
3       To facilitate exploration of activity, dance or movement
4       For "down time" or "quiet time"
5       For another purpose
-6      Don't know [DO NOT READ OUT]
.R      Prefer not to say [DO NOT READ OUT]
Purposes for watching all SSR
To gain knowledge /share info re:a specific learning area
For child amusement, enjoyment or entertainment
To facilitate exploration of activity, dance or movement
For "down time" or "quiet time"
For another purpose
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     SSR2b   1
LABEL
MODULE  SUBMODUL
substr(SSR2a,5,1) = '1'
Please specify the other purpose
SSR use - other purpose
****************** OPEN ENDED ENTRY ITEM
********************************
TABL  1 20      Q18d    6    MM
NOLAB
MODULE  SUBMODUL2
substr(SSR2a,5,1) = '0' or SSR2b gt ''
On days when children aged 3 to 5 years at your service watch TV,
videos,
DVDs or play computer games, for how long would they spend doing these
things?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                                   N               0
100
Time in Minutes                                 N               0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  1         nulli   0
NOLAB
MODULE  SUBMODUL
(null_A and substr(Q2,4,3)= '000') or  Q18d ne . or SSR2=1
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 6       Q18e    2                       _MAKE_
LABEL
MODULE  SUBMODUL
nulli=1 and Q2 ne '000100' and Q2 gt '000000'
In your service, how often are television, videos and DVDs, including
```

```
educational programs and videos, viewed by children aged 0-2.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
5       Don't know [DO NOT READ OUT]
6       Prefer not to say [DO NOT READ OUT]
How often watch videos
***************** SINGLE CHOICE - CATI VERSION
***************************
TABL  1 20      wviw    5    MM
NOLAB
MODULE  SUBMODUL2
Q18e = 4
In a typical week, for how long would children aged 0-2 watch
television,
videos and DVDs across the entire week?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0, 'Refused'=77 & 0].
Nmiss                   0
Time in Hours                               N              0
100
Time in Minutes                             N              0
60
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NULL  2         nullv   0
NOLAB
MODULE  SUBMODUL
(nulli=1 and Q2='000100') or wviw ne . or
Q18e in (1,2,3,5,6)
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 4       Q19     3                      _MAKE_
LABEL
MODULE  SUBMODUL
nullv = 1
Is your service aware of 'Get up and Grow', the Australian Government
Healthy Eating and Physical Activity Guidelines for Early Childhood
Education and Care?
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Aware of 'Get up and Grow'
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       Q20     3                      _MAKE_
LABEL
MODULE  SUBMODUL
Q19 ne .
Does your service have a written nutrition policy?

[Interviewer note: this can be combined with another policy]
1       Yes
2       No
```

```
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written nutrition policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q21     3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q20 gt .
Does your service have a written physical activity policy?

[Interwiewer note: this can be combined with another policy]
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Written physical activity policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q22     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q21 gt .
Does your service have a written policy restricting child viewing of
TV,
DVDs or Videos?

[Interviewer note: this can be combined with another policy]
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q22a    1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22=1 and Q19=1
Is your policy consistent with 'Get Up and Grow?'
1       Yes
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
SSR policy consistent with GUAG?
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       Q23     5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q22a in (1 2 3,4) or Q22 in(2 3 4) or (Q22=1 and Q19 in (2 3 4))
Does your service have a written policy that promotes healthy eating
and physical activity practices and programs that are sensitive to
the needs of minority or disadvantaged groups attending your service?

[Interviewer note: this can be combined with another policy]
1       Yes
```

```
2       No
3       Don't know [DO NOT READ OUT]
4       Prefer not to say [DO NOT READ OUT]
Minority policy?
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       Q24     9                       _MAKE_
LABEL
MODULE  SUBMODUL
Q23 gt .
Each year, does your service monitor and report, internally or
externally, on its achievement of the healthy eating and physical
activity objectives as stated in written policies, guidelines,
or other documents?

[Interviewer note: eg. Annual reports ; Business / Service plans;
Quality Improvement Plan/s; Munch & Move action plan; Service daily
diaries
(for families to view), or Reflection of achievements
in a Service newsletter]
1       Yes
2       No
3       Service doesn't have HE/PA objectives
4       Don't know [DO NOT READ OUT]
5       Prefer not to say [DO NOT READ OUT]
Monitor and report against objectives
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       QIP     4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q24 gt .
Does your service include healthy eating and physical activity
objectives
in your Quality Improvement Program?

[INTERVIEWER NOTE: If "yes", prompt "and is that for HE, PA or both?"
1       Yes - Healthy Eating
2       Yes - Physical Activity
3       Yes - Both HE & PAS
4       No - Neither
5       Don't Know
Include healthy eating in quality program?
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 5       Obj     3                                       5
MLTLB
MODULE  SUBMODUL
QIP in (1,3)
And do you report against the healthy eating objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don't report
```

```
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Obj_oth 1
LABEL
MODULE  SUBMODUL
Substr(OBJ,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
*******************************
MULT  1 5       Obj2    3                                       5
MLTLB
MODULE  SUBMODUL
QIP = 2 or (QIP = 3 and (Obj_oth ne '' or substr(OBJ,4,1)='0' and obj
gt '00000'))
And do you report against the physical activity objectives to:

[INTERVIEWER NOTE: Read out all response options]
1       Parents / Parent committee
2       Management committee / board
3       Staff meetings
4       Other
-5      Don’t report
Report Objectives to:
Parents / Parent committee
Management committee / board
Staff meetings
Other
Don’t report
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Obj_oth21
LABEL
MODULE  SUBMODUL
Substr(OBJ2,4,1) = '1'
Please specify other people you report to
Other People report to
****************** OPEN ENDED ENTRY ITEM
*******************************
NULL  2         null_obj0
NOLAB
MODULE  SUBMODUL
Obj_oth2 ne ' ' or (substr(OBJ2,1,5) gt '00000' and
substr(OBJ2,4,1)='0')
or QIP in (4,5) or (QIP = 1 and (Obj_oth ne ' ' or substr(OBJ,1,5) gt
'00000'))
************************NULL ITEM - DOES
NOTHING************************
MULT  1 8       Q25     8                                       6
MLTLB
MODULE  SUBMODUL
Null_obj = 1
```

```
In the last 12 months, have you sent information home to families
from a recognised health authority for any of the following topics?

This would include material handed directly to parents, mailed or
emailed
or placed in their child's pigeon hole or bag, or information included
in
newsletters or at orientation. Please select all that apply.

[INTERVIEWER NOTE: Read out all response options]
1       Immunisation
2       HE for children (includes list of foods for lunchboxes/lunch
ideas)
3       Physical activity for children
4       Oral hygiene for children
5       Limiting screen time for children
-6      No information is provided
-7      Don't know [DO NOT READ OUT]
-8      Prefer not to say [DO NOT READ OUT]
Sent information home on:
Immunisation
Healthy eating for children (includes list of recommended foods for
lunch boxes)
Physical activity for children
Oral hygiene for children
Limiting screen time for children
No information is provided
Don't know [DO NOT READ OUT]
Prefer not to say [DO NOT READ OUT]
********************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 2       Q25a    2                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1) gt '0'
In the last 12 months, have you sent information home to families
from a recognised health authority about breastfeeding
1       Yes
2       No
Info home about breastfeeding
***************** SINGLE CHOICE - CATI VERSION
**************************
INFO  1         info_ed 2
NOLAB
MODULE  SUBMODUL
(substr(Q25,1,8) ne '00000000' and Substr(Q2,1,1)='0') or Q25a in
(1,2)
The next questions are about healthy eating and physical activity
training opportunities provided to your staff
******************** INFORMATION SCREEN ITEM
******************************
NUM   1         Q26a    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Info_ed = 1
How many primary contact educators are working at your service?

[INTERVIEWER NOTE: Do not read out:
```

```
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Usual numbers of workers
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         Q27     13   MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q26a gt 0 and Q26a ne .
How many of your primary contact educators have received training in
the
past 3 years regarding promoting child HEALTHY EATING?

This includes training provided by an external agency or by other
trained
staff in your service.
 [INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].

[Interviewer note:  Examples of training include Munch&Move 1 day
workshop
Educator-led inservice using the "Staff Development Kit" (this could
be presented over a number of staff meetings); LHD workshops on
healthy eating & FMS; LHD providing an inservice on Munch&Move key
messages;
Training provided through a Registered Training Organisation.]
0                       20
0                       1000
Number received HE training in last 3 years
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       HE12mths2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q27 gt 0
Have any of your primary contact educators participated in training
promoting healthy eating or nutrition in the past 12 months?
1       Yes, all have
2       Yes, some have
3       No, none have
4       Don't know
.R      Refused
Healthy Eating training in last 12 months
***************** SINGLE CHOICE - CATI VERSION
***************************
NUM   1         HEtraind4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
He12mths=2 or HE12mths=1 AND Q26a in (777,888,999)
How many of your primary contact educators took part in that training?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Number received HE training in last 12 months
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   2         Q28     13   MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Q27 =0 or HE12mths in (3,4,.R) or HEtraind ne . or
HE12mths= 1 AND Q26a not in (777 888 999)
How many of your primary contact educators have received training in
the
past 3 years regarding promoting child PHYSICAL ACTIVITY??

This includes training provided by an external agency or by other
trained
staff in your service.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
[Interviewer note: eg. Munch&Move 1 day workshop, educator-led
inservice
using the "Staff Development Kit" (this could be presented over a
number of
staff meetings), LHD workshops on healthy eating and FMS; LHD
providing
an inservice on Munch&Move key messages; and training provided through
a
Registered Training Organisation]
0                       20
0                       1000
Number received PA training in last 3 years
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PA12mths2                       _MAKE_
LABEL
MODULE  SUBMODUL
Q28 ne 0
Have any of your primary contact educators participated in training
promoting physical activity in the past 12 months?
1       Yes, all have
2       Yes, some have
3       No, none have
4       Don't know
.R      Refused
Physical Activity training in last 12 months
***************** SINGLE CHOICE - CATI VERSION
***************************
NUM   1         PAtraind4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PA12mths = 2
How many of your primary contact educators took part in that training?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=999, 'Prefer not to say'=888, 'Refused'=777].
0                       20
0                       1000
Number received PA training in last 12 months
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
```

```
CHCE  1 2       BLINDING5                       _MAKE_
LABEL
MODULE  SUBMODUL
Q28=0 or PA12mths in (1,3,4,.R) or PAtraind ne .
[DO NOT READ QUESTION OUT: INTERVIEWER ONLY]

Do you believe that this person is from a service involved in the
12month intervention or from a service that did not receive any
Good for Kids support (control group)?
1       Intervention Group
2       Control Group
Interviewer estimation of intervention or control group
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       CONTAM  4                       _MAKE_
LABEL
MODULE  SUBMODUL
Blinding gt .
Have you received any of the following from the Good for Kids program
over the past 12 months;
printed resources, educator training, site visits, telephone or
face-to-face support from Good for Kids staff?
1       Yes
2       No
3       Don't Know
.R       Refused
Did service receive G4K support in last 12 months
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     CONTAMO 4
LABEL
MODULE  SUBMODUL
CONTAM = 1
What support did you receive?

[INTERVIEWER NOTE: please be specific about source of information
e.g. G4K, Heart Foundation etc, and what information was provided]
Printed materials received
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         Accinfo 6
NOLAB
MODULE  SUBMODUL
(CONTAMO gt '' or CONTAM in (2,3,.R)) and timegp=1
The next few questions are about the support you have received from
Good for Kids support staff over the past 12 months.

I am going to read you a series of statements.
For each statement, could you please tell me whether you
strongly agree, agree, disagree, or strongly disagree.
****************** INFORMATION SCREEN ITEM
*****************************
CHCE  1 5       ANPHASUM2                       _MAKE_
LABEL
MODULE  SUBMODUL
Accinfo=1
The support that our service received from Good for Kids support
officers
```

```
over the past 12 months was beneficial to our service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Did G4K support improve HE & PA
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC1    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ANPHAsum gt .
I felt comfortable talking to staff about changes to our service's
healthy eating and physical activity policies and practices at
staff meetings or during educator training sessions.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Comfortable talking HE&PA to staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC2    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC1 gt .
I would have liked MORE support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Wanted more support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC3    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC2 gt .
I would have liked LESS support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Wanted less support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC4    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC3 gt .
The face-to-face support provided by support officers over
the past 12 months was acceptable
```

```
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Face-to-face support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC5    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC4 gt .
The telephone support provided by support officers over the past
12 months was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Telephone support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC6    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC5 gt .
Discussions following each educator training to reach consensus on
changes to healthy eating and physical activity practices at our
service
were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Discussions to reach consensus were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC7    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC6 gt .
Training provided by support officers regarding healthy eating and
physical activity was beneficial for staff
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
HE&PA training was beneficial for staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC8    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC7 gt .
The resources provided by the Good for Kids program (such as
sample policies, FMS lanyards, healthy food guidelines, and
```

```
lunchbox resources for parents) were useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Resources were useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC9    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC8 gt .
The on-site visits by support officers following each
educator training session were helpful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
On-site visits post-training were helpful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC10   1                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC9 gt .
The Good for Kids newsletters provided to our service were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
G4K newsletters were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC11   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC10 gt .
Feedback from support officers (provided via telephone, during
one-on-one meetings and/or via written templates or emails) about our
service's HE and PA policies and practices was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
SO feedback was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC12   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC11 gt .
Changing our services healthy eating and physical activity
policies and practices was difficult
1       Strongly Agree
```

```
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Changing policies & practices was hard
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC13   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC12 gt .
Implementing the healthy eating and physical activity policies and
practices was disruptive and too time consuming
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Implementing HE&PA p&ps disruptive &time consuming
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC14   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC13 gt .
Ongoing support from Good for Kids support officers to implement the
healthy eating and physical activity practices would be useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Ongoing SO support would be useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC15   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC14 gt .
I am supportive of implementing the Good for Kids healthy eating and
physical activity policies and practices in my service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Support for implementing HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC16   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC15 gt .
Educators at my service are motivated to implement the Good for Kids
healthy eating and physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
```

```
4       Strongly Disagree
.R      Refused
Educators motivated to implement HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC17   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC16 gt .
Educators have a role to play in implementing the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Educators have a role in implementation
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC18   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC17 gt .
I am confident in implementing the healthy eating and physical
activity
policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Confidence in implementing HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC19   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC18 gt .
I have sufficient skills to implement the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Sufficient skills to implement HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC20   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC19 gt .
I have sound knowledge on children's nutrition and physical activity
requirements while in care
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
```

```
.R      Refused
Knowledge of nutrition & PA requirements
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC21   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC20 gt .
Implementing the HE and PA policies and practices recommended by the
Good for Kids program has had a negative impact on other areas of
children's learning or development
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Neg impact of HE&PA p&ps on other areas
***************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      Advc    3    MM
NOLAB
MODULE  SUBMODUL4
ACC21 gt . or ((CONTAMO ne '' or CONTAM in (2,3,.R)) and timegp=2)
During the last 12 months, approximately how many children have
been injured requiring documentation? Please respond with both
serious injuries and minor injuries.
Nmiss                   0
Serious injuries                            N              0
50
Minor injuries                              N              0
1000
Don't know                                  B    1
Refused                                     B    1
0                       1000
********************TABLE ENTRY ITEM - NO BUTTONS
************************
NUM   1         Advs    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Advc gt .
During the last 12 months, approximately how many staff have been
injured requiring documentation?

[INTERVIEWER NOTE: "Don't know" =888, "Refused/Prefer not to say"
=999]
0                       400
0                       1000
Number of staff injured
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NULL  1         nullacc 0
NOLAB
MODULE  SUBMODUL
advs gt .
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 3       Valq    12                      _MAKE_
LABEL
```

```
MODULE  SUBMODUL
Nullacc=1 and Valstudy=1
You might also remember that someone from the Good for Kids team
visited
your service in February or March last year, to learn more about your
day to day activities. We are conducting these visits again in the
next
few months - you would have noticed this mentioned in the
information letter.

Would you consent to one or two people from the Good for Kids team
coming
to your service and making similar observations at some stage in the
next
few months?

[Interviewer note: we are unsure of exact dates but when they are
conducted, times will be scheduled around the service's convenience]
1       Yes
2       No
.R      Refused
Valstudy services consent to visit
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 3       Valqcon 2                       _MAKE_
LABEL
MODULE  SUBMODUL
Valq=1
I have an electronic copy of the information sheet and the consent
form.
Could I please email it to you for you to complete and return?
1       Yes
2       No
.R      Refused
Electronic consent form
****************** INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     Email4ov1
LABEL
MODULE  SUBMODUL
Valqcon=1
What is your email address?
Email for consent form
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         Emlthanx7
NOLAB
MODULE  SUBMODUL
Email4ov gt ''
Thankyou, and we'd appreciate it if you could please return it at your
earliest possible convenience.

[INTERVIEWER NOTE: Forms can be returned via fax, mail, or collected
in person by a Good for Kids team member. If required, a reply paid
envelope can be sent to the centre for return of the consent form.
Note this on log sheet]
****************** INFORMATION SCREEN ITEM
*******************************
```

```
CHCE  2 4       Q29     8                       _MAKE_
LABEL
MODULE  SUBMODUL
Emlthanx=1 or Valqcon in (2,.R) or Valq in (2,.R)
or (nullacc=1 and Valstudy ne 1)
And lastly, do you have any comments about implementing healthy eating
and
physical activity practices in your centre that you would like NSW
Health
to be aware of?  It could be about your experiences of implementing
such
practices in your service, about this survey, or anything else you
think
is important to mention?

[INTERVIEWER NOTE: IF NECESSARY
 - "I can jot down one or two comments you may have.]
1       Yes (Specify)
2       No
3       Don't know
4       Prefer not to say
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 400     Q29o    1
LABEL
MODULE  SUBMODUL
Q29=1
[INTERVIEWER NOTE: Type comments here]
COMMENT - OPEN
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         info_tnk3
NOLAB
MODULE  SUBMODUL
Q29o ne '' or Q29 in (2,3,4)
Thank you so much for answering those questions. The information
you've
provided will be used to help develop, deliver and evaluate healthy
eating and physical activity programs to children's services.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         callname2
NOLAB
MODULE  SUBMODUL
Info_tnk = 1 and (random5a=1 or random5b=1)
We'll call the centre again in the next few weeks to try and talk to
the room leader.
****************** INFORMATION SCREEN ITEM
*******************************
NULL  1         null5   0
NOLAB
MODULE  SUBMODUL
Callname = 1 or (Info_tnk = 1 and (random6=1 or random7=1))
************************NULL ITEM - DOES
NOTHING************************
CHCE  1 3       menufax 7                       _MAKE_
LABEL
```

```
MODULE  SUBMODUL
null5=1 and Q6 in (2,3)
And, if at all possible, it would be great if you could send through
a copy of your service's menu from last week to us.

Would you be willing to fax that through?

[INTERVIEWER NOTE: If they ask, they can also email through to
Alison.Fielding@hnehealth.nsw.gov.au]
1       Yes
2       No
3       Not applicable
COMMENT
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Menufax19
NOLAB
MODULE  SUBMODUL
menufax=1
Thank you so much.

I'll give you the fax number, do you have a pen?

The number is 4924 6209,
and could you please 'Attention' it to Alison Fielding.

[INTERVIEWER NOTE: If they ask, they can also email through to
Alison.Fielding@hnehealth.nsw.gov.au]
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         Menufax21
NOLAB
MODULE  SUBMODUL
menufax in (2,3)
Ok - that's not a problem.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         INFOEND 2
NOLAB
MODULE  SUBMODUL
(null5=1 and Q6 in (1,4,5)) or Menufax1=1 or Menufax2=1
Thanks again for giving up your time today to talk to us.
We really appreciate it. Thanks for your help and have a lovely day.
****************** INFORMATION SCREEN ITEM
******************************
TIME  1         T_END   0
LABEL
end     time
INFOEND = 1
Recording end time
****************** GET DURATION ITEM
************************************
OPEN  1 600     commh   5
LABEL
MODULE  SUBMODUL
T_END gt .
[INTERVIEWER NOTE: use this space to record any information that you
 think the GFK team should know - Thank you!]
```

```
[INTERVIEWER NOTE: If no comments, type 'nil']
                   *** Record on log sheet as CQ ***
Interviewer comments
****************** OPEN ENDED ENTRY ITEM
********************************
STAT  1         STAT_CQ 1
NOLAB
end     stat
commh gt ''
Completed
CQ
************************************************************************
*****
STAT  1         STAT_CB 1
NOLAB
CB     stat
callback = 1
Callback
CB
************************************************************************
*****
STAT  1         STAT_DR 1
NOLAB
DR     stat
Refused ne '' or decline ne ''
Refused
DR
************************************************************************
*****
STAT  1         STAT_OS 1
NOLAB
OS      stat
elig1c=1
Out of scope
OS
************************************************************************
*****
STAT  1         STAT_OT 1
NOLAB
OT      stat
res_oth ne ' '
Other
OT
************************************************************************
*****
STAT  1         STAT_OP 1
NOLAB
OP      stat
service4=1
Other reason
OP
************************************************************************
*****
STAT  1         STAT_WN 1
NOLAB
WN      stat
service6=1
```

```
Wrong number
WN
************************************************************************
*****
INFO  1         Status1 3
NOLAB
MODULE  SUBMODUL
stat_cq='CQ'
THIS INTERVIEW IS A "CQ". WELL DONE!

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status2 3
NOLAB
MODULE  SUBMODUL
stat_cb='CB'
THIS INTERVIEW IS A "CB".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status3 3
NOLAB
MODULE  SUBMODUL
stat_DR='DR'
THIS INTERVIEW IS A "DR".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status4 3
NOLAB
MODULE  SUBMODUL
stat_OS='OS'
THIS INTERVIEW IS AN "OS".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status5 3
NOLAB
MODULE  SUBMODUL
stat_OT='OT'
THIS INTERVIEW IS AN "OT".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW
************************* INFORMATION SCREEN
*****************************
INFO  1         Status6 5
NOLAB
MODULE  SUBMODUL
stat_OP='OP'
THIS INTERVIEW IS AN "OP".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
```

```
************************* INFORMATION SCREEN
****************************
INFO  1         Status7 5
NOLAB
MODULE  SUBMODUL
stat_WN='WN'
THIS INTERVIEW IS A "WN".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE INTERVIEW

**PUT IN PROBLEM FILE WITH A NOTE TO THE PROJECT OFFICER**
************************* INFORMATION SCREEN
****************************
INFO  2         TERM    2
NOLAB
END     Term
status1=1 or status2=1 or status3=1 or status4=1 or status5=1 or
status6=1 or status7=1
INTERVIEWER TERMINATION INSTRUCTION, PRESS STOP
AND RECORD OUTCOME OF INTERVIEW ON LOG
************************* INFORMATION SCREEN
****************************
```

```
TITL  0         Roomlead1       CATI                  7     NAME
NOLAB
MODULE  SUBMODUL
Room Leaders
************************ TITLE ITEM
************************************
TIME  0         t_start 1
LABEL
MODULE  SUBMODUL
This records Duration to Current point
Starting Time
****************** GET DURATION ITEM
************************************
LINK  1         Supname 1       QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL        6
T_start ne .
Items in external dataset
DATACATI.CONFID              SupName
DATACATI.CONFID              RmLdName
DATACATI.CONFID              MenuServ
DATACATI.CONFID              Tottime
DATACATI.CONFID              fullname
DATACATI.CONFID              Timegp
Links to external database
***************** LINK TO EXTERNAL DATASET ITEM
****************************
CHCE  1 2       service 4                     _MAKE_
LABEL
MODULE  SUBMODUL
SupName gt ''
Hello, my name is ^_INTVR_^ and I'm from Hunter New England Local
Health District.

Is that ^fullname^?
1       Yes
2       No
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       service22                     _MAKE_
LABEL
MODULE  SUBMODUL
service=2
I'm sorry, I have this number as ^fullname^?
Has your childcare centre ever been known by that name?
1       Yes
2       No
3       Not a childcare centre
AS available
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         service65
NOLAB
MODULE  SUBMODUL
service2=3
I'm sorry to trouble you, I must have the wrong number
```

```
Thanks for your time.

                    *** Record on log sheet as WN ***
******************* INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service35
LABEL
MODULE  SUBMODUL
service2=2
What's the name of your childcare centre?

And what suburb are you in?

[INTERVIEWER NOTE: Record centre name and suburb]
Name and suburb
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         service46
NOLAB
MODULE  SUBMODUL
service3 ne ''
I was just ringing to speak to your Nominated Supervisor about a child
health survey, but I'll just check these details against our list of
services to call and ring you back if you're one of the service we
need
to speak with.

Thanks for your time.
******************* INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     service55
LABEL
MODULE  SUBMODUL
service2=1
Ok, What is the NEW name of your centre?

I'll just update our records with that information.

[INTERVIEWER NOTE: Record centre name]
NEW Name
****************** OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 6       Intro1  6                       _MAKE_
LABEL
MODULE  SUBMODUL
Service=1 or service5 ne ''
Could I please speak to ^RmLdName^?

[INTERVIEWER NOTE: If they require more info say:
We recently called your service and talked to the nominated supervisor
(^SupName^) who provided us with ^RmLdName^'s name and
gave us permission to call back as part of our children's Health
survey.]
1       Speaking to that person
2       Person called to phone
3       Person not avail (record on log sheet)
4       Time not suitable (record on log sheet)
5       Other (record on log sheet)
```

```
.R      Refused [DO NOT READ OUT]
Speak to Room Leader?
****************** SINGLE CHOICE - CATI VERSION
*****************************
OPEN  1 200     INTROTH 5
LABEL
MODULE  SUBMODUL
INTRO1 = .R
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]

                  *** Record on log sheet as DR ***
Refused survey
******************* OPEN ENDED ENTRY ITEM
*********************************
OPEN  1 200     INTROTH_5
LABEL
MODULE  SUBMODUL
INTRO1 = 5
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]

                  *** Record on log sheet as OT ***
Other
******************* OPEN ENDED ENTRY ITEM
*********************************
INFO  1         INTRO2  10
NOLAB
MODULE  SUBMODUL
INTRO1=1
We're conducting follow up surveys with childcare staff
who work with
preschool aged children, to help us develop, deliver
and evaluate
healthy eating and physical activity initiatives.

We recently called your service and talked to the
nominated
supervisor ^SupName^ who provided us with your name,
and gave us permission to give you a call.

So today I was hoping that we could ask you some
questions about
healthy eating and physical activity for children in
your service.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         INTRO3  9
NOLAB
MODULE  SUBMODUL
INTRO1=2
Hello, my name is ^_INTVR_^ and I'm calling from the
Hunter New
England Local Health District.

[INTERVIEWER NOTE: IF NEEDED "Is that ^RmLdName^?"
```

```
IF NOT, RECORD ON logsheet]

We’re conducting follow up surveys with childcare staff
who work with
preschool aged children, to help us develop, deliver
and evaluate
healthy eating and physical activity initiatives.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         INTRO3b 6
NOLAB
MODULE  SUBMODUL
INTRO3=1
We've recently called your service and talked to the
nominated supervisor
(^SupName^) who provided us with your name, and gave us
permission
to give you a call.

So today I was hoping that we could ask you some
questions about
Healthy eating and physical activity for children in
your service.
****************** INFORMATION SCREEN ITEM
******************************
INFO  1         intro4  7
NOLAB
MODULE  SUBMODUL
INTRO1 in (3,4)
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.

                   *** Record on log sheet as CB ***
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 3       INTRO5  4                     _MAKE_
LABEL
MODULE  SUBMODUL
INTRO2=1 OR INTRO3b=1
The call will take about 15 minutes.

Is now a good time for you, or can we book in a more
convenient time to
call you back?
1       Yes/appropriate
2       No/Book in time [record on logsheet]
3       No/declined survey
Continue or callback
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     INTROTH17
LABEL
MODULE  SUBMODUL
INTRO5=3
OK, thank you for your time.
```

```
[INTERVIEWER NOTE:
- If provide reason, record]
- If no reasons given, record "nil"]

                    *** Record on log sheet as DR ***
Declined survey
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         intro4a 6
NOLAB
MODULE  SUBMODUL
INTRO5 = 2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.
                    *** Record on log sheet as CB ***
****************** INFORMATION SCREEN ITEM
********************************
CHCE  1 3       Q1      4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO5=1
Thank you so much for agreeing to participate. We'll be
as quick as we can.
Before we begin, I'll just ask a few questions about
your role:

Do you usually work in a room with children age 3 to 5
years?
1       Yes
2       No
.R      Refused
SP usually works in a 3-5 room
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       Rmleadr11                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1=1
Are you the room leader in this room?
1       Yes
2       No
.R      Refused
Is SP room leader in this room?
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         yrs     1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadr1=1
How long have you been the room leader in this room? (To
the nearest year)
0                       30
0                       60
Time as room leader in this room
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         expr    1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadr1 in (2 .R)
How long have you been working in this room? (To the nearest year)
0                       30
0                       60
Time working in this room?
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Provinfo3                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1 in (2 .R)
Would you be confident to provide us with information about the day-
to-day
healthy eating and physical activity practices for three to five year
olds
in this room?
1       Yes
2       No
.R      Refused
Different room, ok to continue?
****************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 3       OtherSP 2                       _MAKE_
LABEL
MODULE  SUBMODUL
Provinfo in (2 .R)
Is there anyone else that we might be able to talk to,
who is more familiar
with the day-to-day practices in this room?
1       Yes
2       No
.R      Refused
More appropriate survey person?
****************** SINGLE CHOICE - CATI VERSION
****************************
TABL  1 20      NamR    5
NOLAB
MODULE  SUBMODUL2
OtherSP=1
What is the name of the Room Leader (or Educator)?

[INTERVIEWER NOTE: - Record first and last name of alternative
contact.

  ** WRITE NAME ON LOGSHEET SO THAT YOU ASK FOR THEM NEXT TIME]
NUMC                    2
First Name                                      C
Last Name                                       C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 3       OtherCon3                       _MAKE_
LABEL
MODULE  SUBMODUL
```

```
NamR ne .
Are they available now?

(If yes... "Could I please speak with them?")
1       Yes
2       No
.R      Refused
Other Available
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     INTROTH25
LABEL
MODULE  SUBMODUL
OtherCon = .R
OK, thank you for your time

[INTERVIEWER NOTE: If they provide a reason, please record]

                    *** Record on log sheet as D3 ***
Refused on behalf of other person
****************** OPEN ENDED ENTRY ITEM
*********************************
INFO  1         INTRO3x 12
NOLAB
MODULE  SUBMODUL
Othercon=1
Hello, my name is ^_INTVR_^ and I'm calling from the
Hunter New
England Local Health District.

We're conducting follow up surveys with childcare staff
who work with
preschool aged children, to help us develop, deliver
and evaluate
healthy eating and physical activity initiatives.

We've recently called your service and talked to the
nominated
supervisor (^SupName^) who suggested we call ^RmLdName^
to continue the survey, but given that s/he is
unavailable,
I was wondering if we could ask you some questions
about healthy eating
and physical activity for children in your service.
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 3       INTRO5x 4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO3x=1
The call will take about 15 minutes.

Is now a good time for you, or can we book in a more
convenient time to
call you back?
1       Yes/appropriate
2       No/Book in time [record on logsheet]
3       No/declined survey
```

```
Other continue or callback?
********** SINGLE CHOICE - CATI VERSION
**************************
OPEN  1 200     INTROTHx7
LABEL
MODULE  SUBMODUL
INTRO5x=3
OK, thank you for your time.

[INTERVIEWER NOTE:
- If provide reason, record.
- If no reasons given, record "nil"]

                  *** Record on log sheet as DR ***
Other refused
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         intro4x 7
NOLAB
MODULE  SUBMODUL
INTRO5x = 2
Could you suggest another time that we can call you back?

[Make arrangements for a call back and record on Log Sheet]

Thank you very much for your time. Goodbye.

                  *** Record on log sheet as CB ***
****************** INFORMATION SCREEN ITEM
********************************
CHCE  1 3       Q1x     4                       _MAKE_
LABEL
MODULE  SUBMODUL
INTRO5x=1
Thank you so much for agreeing to participate. We'll be
as quick as we can.
Before we begin, I'll just ask a few questions about
your role:

Do you usually work in a room with children aged 3 to 5
yrs?
1       Yes
2       No
.R      Refused
Other usually in 3-5 room?
********** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 3       Rmleadrx1                       _MAKE_
LABEL
MODULE  SUBMODUL
Q1x=1
Are you the room leader in this room?
1       Yes
2       No
.R      Refused
Other – are you room leader?
********** SINGLE CHOICE - CATI VERSION
**************************
```

```
NUM   1         yrsx    1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadrx=1
How long have you been the room leader in this room? (To
the nearest year)
0                       30
0                       60
Other - time as room leader in this room?
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
NUM   1         exprx   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Rmleadrx in (2 .R)
How long have you been working in this room? (To the nearest year)
0                       30
0                       60
Other - time working in current room
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 3       Provinfx2                      _MAKE_
LABEL
MODULE  SUBMODUL
Q1x in (2 .R)
Would you be confident to provide us with information about the day-
to-day
healthy eating and physical activity practices for three to five year
olds?
1       Yes
2       No
.R      Refused
Other, ok to continue?
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         Thanks1x8
NOLAB
MODULE  SUBMODUL
provinfx in (2 .R)
Thank you for being willing to participate in this survey.

Your responses indicate that you are not one of the people we need to
speak with at this point. We won't trouble you further with these
questions.

Thanks once again for your help. Good bye
                   *** Record on log sheet as OS ***
******************* INFORMATION SCREEN ITEM
*******************************
TABL  1 20      ConR    4
NOLAB
MODULE  SUBMODUL2
othercon=2
Can you suggest a day and time that might be convenient for us to
contact them

[INTERVIEW NOTE: Record day and time, or any other helpful
information]
```

```
NUMC                    2
Suggested day                                C
Suggested time                               C
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         ThanksR 6
NOLAB
MODULE  SUBMODUL
ConR gt .
Thank you for your time. I will call back on later to try and complete
the survey with the person so suggested.

Thanks once again for your help. Good bye

                    *** Record on log sheet as CB ***
******************* INFORMATION SCREEN ITEM
*******************************
INFO  1         Thanks1R7
NOLAB
MODULE  SUBMODUL
OtherSP in (2 .R)
Thank you for being willing to participate in this survey.

Your responses indicate that you are not one of the people we need to
speak with at this point. We won't trouble you further with these
questions.

Thanks once again for your help. Good bye
                    *** Record on log sheet as OS ***
******************* INFORMATION SCREEN ITEM
*******************************
OPEN  2 200     Roomchec1
LABEL
MODULE  SUBMODUL
yrs ne . or expr ne . or yrsx ne . or exprx ne . or PROVINFO=1
or Provinfx=1
What is the name of the 3-5 room that you work in?
Name of 3-5 room
******************* OPEN ENDED ENTRY ITEM
*********************************
NUM   1         Demog1  2    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Roomchec gt ''
How long have you been working in the early childhood education
and care sector? (To the nearest year)
0                       30
0                       60
Time working in ECEC sector
******************* NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 7       Demog2  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Demog1>.
What is your highest qualification?

[INTERVIEWER NOTE: Read out all response options]
```

```
1       Year 7-10
2       Year 11-12
3       TAFE
4       Undergraduate university
5       Postgraduate university
6       Other
.R      Refused [DO NOT READ OUT]
Highest qualification
********** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     Qualothr1
LABEL
MODULE  SUBMODUL
Demog2=6
What is the other qualification you have achieved?
Define other qualification
******************* OPEN ENDED ENTRY ITEM
*********************************
CHCE  1 7       Demog3  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Demog2 ne . or Qualothr ne ' '
In a typical week, how many days do you work in a room
with 3-5 year olds?

[INTERVIEW NOTE: Round up to nearest day]
1       1
2       2
3       3
4       4
5       5
6       Don't currently work in preschool room
.R      Refused [DO NOT READ OUT]
Days working with 3-5 yr olds
********** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         pipeline6
NOLAB
MODULE  SUBMODUL
Demog3 ne .
A member of the Good for Kids team may request to visit your service
in the coming months, to observe and learn more about the healthy
eating
and physical activity policies and practices that you will be asked
about
in this survey.

We'll start with some question about your service.
******************* INFORMATION SCREEN ITEM
*******************************
INFO  1         Info1   11
NOLAB
MODULE  SUBMODUL
pipeline=1
We may have also asked some similar questions in the survey for
Nominated Supervisors. However, those questions were about the
policies and practices across your whole service. Today, we are
specifically focused on the typical practices for
```

```
three to five-year-olds in the room in which you work.

We know that practices across and within services are diverse, so
please
select the response that best represents what typically happens in
your room. Please note, that there are no right or wrong answers, and
we are just interested in gaining an accurate picture of what is
actually
happening in preschools across NSW.
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         MENU1   2
NOLAB
MODULE  SUBMODUL
Info1 ne . and MenuServ=3
The first questions are about the drinks that children consume
in your room .
****************** INFORMATION SCREEN ITEM
*******************************
INFO  1         Lunchbx12
NOLAB
MODULE  SUBMODUL
Info1 ne . and MenuServ in (1,2,4,5)
The first questions are about the foods and drinks that children
consume
in your room.
****************** INFORMATION SCREEN ITEM
*******************************
CHCE  1 5       ALL1    7                       _MAKE_
LABEL
MODULE  SUBMODUL
Lunchbx1 ne . or Menu1 ne .
For the next question, please select the response option
the best
describes what happens at you service.

[NOTE TO INTERVIEWER: If they give multiple response
options, enter the
                     response which is lowest down the
list]

In your room, would you say that THROUGHOUT THE DAY,
drinking water is:
1       Not freely available
2       Available during designated water breaks
3       Easily visible and available on request
4       Easily visible & available for self-serve
.R      Refused [DO NOT READ OUT]
Water availability through the day
***************** SINGLE CHOICE - CATI VERSION
****************************
MULT  1 6       ALL2    3                                       4
MLTLB
MODULE  SUBMODUL
ALL1 gt .
For the next question, please select all responses that
apply.
```

```
In your room, would you say that AT MEAL AND SNACK
TIMES:
1       Water is not freely available
2       Children can access water bottles
3       Children can request water
4       Children can serve themselves water
5       Children are provided with water
6       Refused [DO NOT READ OUT]
Water availability with meals & snacks
not
bottles
request
selfserve
provided
refused
******************MULTIPLE CHOICE - CATI
VERSION**************************
CHCE  1 4       PCO3a   4                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(ALL2,1,6) gt '000000' and Lunchbx1=1
Does your service have WRITTEN NUTRITIONAL GUIDELINES
regarding the foods
and drinks brought from home for meals and snacks?

[DO NOT READ RESPONSE OPTIONS]
1       Yes
2       No
3       Don't know
.R      Refused
Written guidelines for food from home?
***************** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 5       PCO3b   4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3a=1
Do educators in your room MONITOR CHILDREN'S LUNCHBOXES
to check that
they're consistent with these nutritional guidelines?

[INTERVIEWER NOTE: READ RESPONSE OPTIONS]
1       No, educators don't monitor lunchboxes
2       Yes - educators monitor but not using guidelins
3       Yes - educators monitor using guidelines
4       Don't know [DON'T READ]
.R      Refused [DO NOT READ OUT]
Are lunchboxes monitored v guidelines?
***************** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 5       PCO3c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3b=3
How often do educators in your room monitor children's lunchboxes to
check
that they're consistent with these nutritional guidelines?
1       Never
```

```
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of lunchbox monitoring
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO3d   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO3c=4
How many days each week?
0                       5
0                       7
Days per week lunchboxes are monitored
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 6       PCO3e   3                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO3c in (2 3 .R) OR PCO3d gt .
When staff monitor lunchboxes, if children bring foods
and drinks that are
inconsistent with your nutritional guidelines, how often
do educators in
your room PROVIDE FEEDBACK TO FAMILIES?
1       Never
2       Rarely
3       Sometimes
4       Every time
5       Don’t know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Frequency of feedback to families
***************** SINGLE CHOICE - CATI VERSION
****************************
NULL  2         Null1   1
NOLAB
MODULE  SUBMODUL
PCO3e ne . or PCO3a in (2 3 .R) or PCO3b in (1 2 4 .r) or PCO3c = 1 or
(substr(ALL2,1,6) gt '000000' and menu1=1)
A comment line goes here.
************************NULL ITEM - DOES
NOTHING************************
INFO  1         PCO5Info9
NOLAB
MODULE  SUBMODUL
Null1=1
The next few questions are about learning experiences
relating to
healthy eating.

When I refer to "planned learning experiences about
healthy eating",
this could include structured learning experiences like:
 - Cooking or tastings,
 - food experiments, or food related craft
 - planned discussion or stories about healthy eating,
and
```

```
 - Food themed action songs or rhymes
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 5       PCO5a   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO5Info=1
How often would educators in your room provide PLANNED
LEARNING
EXPERIENCES about healthy eating?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of HE planned learning exp
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO5b   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO5a=4
How many days each week?
0                       5
0                       7
Days per week HE planned learning experiences provided
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO5c   5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO5a in (1 2 3 .R) OR PCO5b gt .
Opportunistic learning experiences could include
educators making links
to healthy eating during story times or mealtimes.

How often would educators in your room provide
OPPORTUNISTIC LEARNING
EXPERIENCES about healthy eating?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of HE opportunistic learning experiences
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO5d   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO5c=4
How many days each week?
0                       5
0                       7
Days per week HE opportunistic learning experiences
provided
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
```

```
TABL  1 20      PC7a    6    MM
LABEL
MODULE  SUBMOD  2
PCO5c in (1 2 3 .R) OR PCO5d gt .
Typically, how much of your ^tottime^ hours of daily
operating time,
do 3 to 5 year old children in your room have for child-
initiated
free play. This includes both indoor and outdoor free
play time.

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
Nmiss                   0
Hours                                       N             0
99
Minutes                                     N             0
59
0                       60
Daily time for child-initiated free play
********************TABLE ENTRY ITEM - NO BUTTONS
************************
INFO  1         PCO7Info7
NOLAB
MODULE  SUBMODUL
PC7a ne .
The next couple of questions are about opportunities for
physical activity
among 3 to 5 year olds in your room.

When we talk about children being "active", we mean
where children are:
 - moving their body from one location to another,
 - engaging in fundamental movement skills, or
 - if standing, are at least moving their limbs and
trunk.
****************** INFORMATION SCREEN ITEM
******************************
TABL  1 20      PC7b    5    MM
LABEL
MODULE  SUBMOD  2
PCO7Info ne .
Typically, for how much of the ^PC7aN1^ hours (and
^PC7aN2^ minutes)
of child-initiated, free play time can children be
physically active?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
Nmiss                   0
Hours                                       N             0
99
Minutes                                     N             0
59
0                       60
Time children can be physically active
```

```
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 6       PCO7c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PC7b ne .
During typical free play time where children can be
active,
what proportion of children are usually active?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
.R      Refused [DO NOT READ OUT]
Usual children active in free play
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO7d   5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO7c ne .
How often would educators in your room provide
STRUCTURED EDUCATOR-LED
physical activity?

This could include circle time, music, dancing or
planned activities to
develop movement skills.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Time for S.E.L.P.A.
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO7e   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO7d=4
How many days each week?
0                       5
0                       7
Days per week S.E.L.P.A.
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
TABL  1 20      PC7f    7    MM
LABEL
MODULE  SUBMOD  2
PCO7d in (1 2 3 .R) OR PCO7e ne .
How much of your ^tottime^ hours of daily operating
time,
do 3 to 5 year old children in your room spend
participating in
STRUCTURED, EDUCATOR-LED physical activity such as
circle time,
```

```
music, dancing or planned activities to develop movement
skills?

[INTERVIEWER NOTE: Do not read out:
 'Don't know'=99 & 0, 'Prefer not to say'=88 & 0,
'Refused'=77 & 0].
Nmiss                   0
Hours                                       N              0
99
Minutes                                     N              0
59
0                       60
Daily hrs of S.E.L.P.A.
********************TABLE ENTRY ITEM - NO BUTTONS
************************
CHCE  1 6       PCO7g   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PC7f ne .
Typically, during STRUCTURED, EDUCATOR-LED physical
activity,
what proportion of children are active?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
.R      Refused [DO NOT READ OUT]
Typical children active in S.E.L.P.A
***************** SINGLE CHOICE - CATI VERSION
****************************
INFO  1         PCO8Info4
NOLAB
MODULE  SUBMODUL
PCO7g ne .
The next couple of questions refer to fundamental
movement skills.

These are basic gross motor movement skills such as
running, catching,
jumping, kicking, hopping and ball skills.
****************** INFORMATION SCREEN ITEM
******************************
CHCE  1 5       PCO8a   5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8Info ne .
How often would educators in your room LEAD STRUCTURED
ACTIVITY to develop
fundamental movement skills?

This could be during a transition activity, group or
circle time, outdoor
play, or as part of a specific or fundamental movement
skill activity.
1       Never
2       Less than monthly
3       At least monthly
```

```
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of FMS structured activity
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO8b   1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO8a=4
How many days each week?
0                       5
0                       7
Days per week - FMS structured activity
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 6       PCO8c   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8a in (2,3,.R) OR PCO8b >.
Typically, during educator-led, structured activity to
develop fundamental
movement skills, what proportion of children are
involved?
1       All
2       3/4 or more
3       1/2 or more
4       1/4 or more
5       Less than 1/4
.R      Refused [DO NOT READ OUT]
Typical children in FMS structured activity
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO9a   2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO8c >. or PCO8a=1
In your room, how often are television, videos and DVDs,
including
educational programs and videos, viewed by children aged
3 to 5.
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of JUST TV videos &DVDs
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO9b   4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO9a=4
How much time each week would children spend watching television,
videos and DVDs?

[INTERVIEWER NOTE: Record in minutes / week]
0                       60
0                       300
```

```
Weekly hours of JUST TV, videos, DVDs
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       Q20c    4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO9b >. or PCO9a in (1 2 3 .R)
Would you say that, a written policy on nutrition is:

[INTERVIEWER NOTE: If MOST, but NOT ALL staff follow the policy,
                   choose option 2 'SOME STAFF']
1       Available but not followed by most staff
2       Available but followed only by some staff
3       Available & routinely followed by all staff
4       Not available
.R      Refused [DO NOT READ OUT]
Written nutrition policy
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 5       Q21c    4                       _MAKE_
LABEL
MODULE  SUBMODUL
Q20c ne .
Would you say that, a written policy on physical activity is:

[INTERVIEWER NOTE: If MOST, but NOT ALL staff follow the policy,
                   choose option 2 'SOME STAFF']
1       Available but not followed by most staff
2       Available but followed only by some staff
3       Available & routinely followed by all staff
4       Not available
.R      Refused [DO NOT READ OUT]
Written physical activity policy
***************** SINGLE CHOICE - CATI VERSION
***************************
MULT  1 6       PC11a   3                                       3
MLTLB
MODULE  SUBMODUL
Q21c ne .
At the last orientation session run for children enrolled
in your room, WAS INFORMATION PROVIDED TO PARENTS about
any of the following children's health topics?
1       Healthy eating
2       Physical activity
3       Limiting screen time
-4      None of the above
-5      Don't know [DO NOT READ OUT]
.R      Refused [DO NOT READ OUT]
Orientation topics
Healthy eating
Physical activity
Limiting screen time
None of the above
Don't Know
Refused
******************MULTIPLE CHOICE - CATI
VERSION***************************
```

```
MULT  1 6       PC11b   3                                       4
MLTLB
MODULE  SUBMODUL
substr(PC11a,1,6) gt '000000'
Aside from orientation, within the past year, was information provided
to
the parents of children in your room about any of the following
children's
health topics?
1       Healthy eating
2       Physical activity
3       Limiting screen time
4       Other Topics
-5      None of the above
.R      Refused [DO NOT READ OUT]
Information provided outside orientation
Healthy eating
Physical activity
Limiting screen time
Other topics
None of the above
Refused
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     Othrinfo1
LABEL
MODULE  SUBMODUL
substr(PC11b,4,1)='1'
What other health topics did you provide information about?
Other health topics they provided info about
****************** OPEN ENDED ENTRY ITEM
*********************************
CALC  1         PC11bCLC0
LABEL
MODULE  SUBMOD  10              1
substr(PC11b,1,3) gt '000' or (substr(PC11b,1,3) gt '000' and othrinfo
gt '')
length PC11btxt $ 50.;
if PC11b='100000' then PC11btxt='Healthy eating';
else if substr(PC11b,1,3)='010' then PC11btxt='Physical activity';
else if substr(PC11b,1,3)='001' then PC11btxt='Limiting screen time';
else if substr(PC11b,1,3)='110' then PC11btxt='Healthy eating and
Physical activity';
else if substr(PC11b,1,3)='101' then PC11btxt='Healthy eating and
Limiting screen time';
else if substr(PC11b,1,3)='011' then PC11btxt='Physical activity and
Limiting screen time';
else if substr(PC11b,1,3)='111' then PC11btxt='Healthy eating,
Physical activity and Limiting screen time';
PC11btxt=lowcase(strip(PC11btxt));
PC11bCLC=1;
PC11btxt                        C
Information provided to parents
********************** CALCULATION ITEM
*********************************
MULT  1 7       PC11c   4                                       6
MLTLB
MODULE  SUBMODUL
```

```
(PC11bCLC=1 and PC11btxt gt '')
Aside from orientation, within the past year, through which of the
following ways have you communicated with the parents of children
from your room about
^PC11btxt^
1       parent information nights
2       mail
3       Email
4       newsletters
5       handouts
6       other methods of communication
.R      Refused [DO NOT READ OUT]
Communication Channels
info nights
mail
Email
newsletters
handouts
other
refused
******************MULTIPLE CHOICE - CATI
VERSION**************************
OPEN  1 200     PCO11d  1
LABEL
MODULE  SUBMODUL
substr(PC11c,6,1)='1'
What other methods of communication did you use?
Other communication methods for parents
****************** OPEN ENDED ENTRY ITEM
********************************
CHCE  2 7       PCO14a  3                       _MAKE_
LABEL
MODULE  SUBMODUL
substr(PC11c,6,1) = '0' or PCO11d ne ' ' or substr(PC11b,5,2) gt '00'
or (othrinfo gt '' and substr(PC11b,1,3)='000')
The next few questions are about active play.

In your room, would you say that DURING ACTIVE FREE PLAY
TIME, staff:
1       Never or,
2       Rarely join children in active play
3       Sometimes join children in active play
4       Often/always join children in active play
5       Often/always join children in active play and
6       [CONT] make +ve statements about the activity
.R      Refused [DO NOT READ OUT]
Staff involvement in active free play
***************** SINGLE CHOICE - CATI VERSION
***************************
CHCE  1 4       PCO14b  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14a in (2 3 4 5 6)
How often do educators from your room PARTICIPATE
ALONGSIDE CHILDREN IN
ACTIVE PLAY?
1       Less than monthly
2       At least monthly
```

```
3       At least weekly
.R      Refused [DO NOT READ OUT]
Staff participation w children in act ply
********** SINGLE CHOICE - CATI VERSION
**************************
NUM   1         PCO14c  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO14b=3
How many days each week?
0                       5
0                       7
Days per wk staff participate with children
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO14d  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14b in (1 2 .R) OR PCO14c gt .
During typical free play time where children can be
active, how many
educators in your room participate alongside children in
active play?
1       All staff
2       Most staff
3       Some staff
4       No staff
.R      Refused [DO NOT READ OUT]
No of educators joining active play
********** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 5       PCO15a  5                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO14d ne . or PCO14a in (1 .R)
How often do educators in your room provide verbal prompts to
encourage or
extend children's activity during child-initiated free active play?

For example, by saying things like "Run hard", "Good throw", or
"Can you do it again"?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency of verbal prompts from educators
********** SINGLE CHOICE - CATI VERSION
**************************
NUM   1         PCO15b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO15a=4
How many days each week?
0                       5
0                       7
Days per week verbal prompts provided
```

```
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO15c  3                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO15a in (2 3 .R) OR PCO15b gt .
During typical free play time, where children can be active, how many
educators in your room provide prompts to encourage or extend
children's activity?
1       All staff
2       Most staff
3       Some staff
4       No staff
.R      Refused [DO NOT READ OUT]
Educs provide encouraging/extending prompts
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO16a  4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO15c ne . or PCO15a=1
The next few questions are about food and eating behaviours.

How often would educators from your room sit and eat lunch with
the children?
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Frequency educators eat lunch w children
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO16b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO16a=4
How many days each week?
0                       5
0                       7
Days per wk educators eat lunch w children
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO16c  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16a in (1 2 3 .R) OR PCO16b gt .
On a typical day, in your room do staff members consume
sweets,
salty snacks, or sugary drinks in front of the children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Staff visibly eat sweet/salty snacks/drinks
***************** SINGLE CHOICE - CATI VERSION
****************************
```

```
CHCE  1 5       PCO16d  1                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16c ne .
On a typical day, do staff members consume fruit in front of the
children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Do staff visibly eat fruit
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO16e  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16d ne .
On a typical day, do staff members consume vegetables in front of the
children?
1       No, never
2       Some staff members
3       Most staff members
4       All staff members
.R      Refused [DO NOT READ OUT]
Do staff visibly eat vegetables
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       PCO17a  4                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO16e ne .
At meal and snack times, how often would educators from your room make
positive comments about healthy foods.

For example "I like carrots too, they're really crunchy".
1       Never
2       Less than monthly
3       At least monthly
4       At least weekly
.R      Refused [DO NOT READ OUT]
Do staff make +ve comments on healthy food
***************** SINGLE CHOICE - CATI VERSION
****************************
NUM   1         PCO17b  1    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
PCO17a=4
How many days each week?
0                       5
0                       7
Days per week staff make +ve comms re:food
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
CHCE  1 5       PCO17c  2                       _MAKE_
LABEL
MODULE  SUBMODUL
PCO17a in (2 3) or PCO17b gt .
```

```
At meal and snack times, how many educators from this room make
positive
comments about healthy eating?
1       Some Staff (1-50%)
2       Most Staff (51-99%)
3       All Staff (100%)
4       Don't know [DO NOT READ OUT]
5       Refused [DO NOT READ OUT]
Educators making +ve comments re: HE
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 2       BLINDING5                       _MAKE_
LABEL
MODULE  SUBMODUL
(PCO17a in (1,.R) OR PCO17c gt .)
[DO NOT READ QUESTION OUT: INTERVIEWER ONLY]


Do you believe that this service was allocated to receive the
intervention or control group?
1       Intervention Group
2       Control Group
Interviewer estimation of intervention or control group
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 4       CONTAM  3                       _MAKE_
LABEL
MODULE  SUBMODUL
Blinding gt .
Have you received any of the following from the Good for Kids program
over the past 12 months: printed resources, educator training,
site visits, telephone or face-to-face support from Good for Kids
staff?
1       Yes
2       No
3       Don’t Know [DO NOT READ OUT]
.R       Refused [DO NOT READ OUT]
Did service receive printed materials in last 12 months
***************** SINGLE CHOICE - CATI VERSION
****************************
OPEN  1 200     CONTAMO 4
LABEL
MODULE  SUBMODUL
CONTAM = 1
What support did you receive?

[INTERVIEWER NOTE: please be specific about source of information
e.g. G4K, Heart Foundation etc, and what information was provided]
Printed materials received
****************** OPEN ENDED ENTRY ITEM
********************************
INFO  1         Accinfo 6
NOLAB
MODULE  SUBMODUL
(CONTAMO GT '' OR CONTAM in (2,3,.R)) and timegp=1
The next few questions are about the support you have received
from Good for Kids support staff over the past 12 months.
```

```
I am going to read you a series of statements.
For each statement, could you please tell me whether you
strongly agree, agree, disagree, or strongly disagree.
******************* INFORMATION SCREEN ITEM
******************************
CHCE  1 5       ANPHASUM2                     _MAKE_
LABEL
MODULE  SUBMODUL
Accinfo=1
The support that our service received from Good for Kids support
officers
over the past 12 months was beneficial to our service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Did G4K support improve HE & PA
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC1    3                     _MAKE_
LABEL
MODULE  SUBMODUL
ANPHAsum gt .
I felt comfortable talking to staff about changes to our service's
healthy eating and physical activity policies and practices at
staff meetings or during educator training sessions.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Comfortable talking HE&PA to staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC2    2                     _MAKE_
LABEL
MODULE  SUBMODUL
ACC1 gt .
I would have liked MORE support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Wanted more support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC3    2                     _MAKE_
LABEL
MODULE  SUBMODUL
ACC2 gt .
I would have liked LESS support from support officers over
the past 12 months
1       Strongly Agree
2       Agree
3       Disagree
```

```
4       Strongly Disagree
.R      Refused
Wanted less support from SOs
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC4    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC3 gt .
The face-to-face support provided by support officers over
the past 12 months was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Face-to-face support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC5    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC4 gt .
The telephone support provided by support officers over the past
12 months was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Telephone support was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC6    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC5 gt .
Discussions following each educator training to reach consensus on
changes to healthy eating and physical activity practices at our
service
were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Discussions to reach consensus were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC7    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC6 gt .
Training provided by support officers regarding healthy eating and
physical activity was beneficial for staff
1       Strongly Agree
2       Agree
3       Disagree
```

```
4       Strongly Disagree
.R      Refused
HE&PA training was beneficial for staff
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC8    3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC7 gt .
The resources provided by the Good for Kids program (such as
sample policies, FMS lanyards, healthy food guidelines, and
lunchbox resources for parents) were useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Resources were useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC9    2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC8 gt .
The on-site visits by support officers following each
educator training session were helpful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
On-site visits post-training were helpful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC10   1                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC9 gt .
The Good for Kids newsletters provided to our service were acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
G4K newsletters were acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC11   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC10 gt .
Feedback from support officers (provided via telephone, during
one-on-one meetings and/or via written templates or emails) about our
service's HE and PA policies and practices was acceptable
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
```

```
.R      Refused
SO feedback was acceptable
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC12   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC11 gt .
Changing our services healthy eating and physical activity
policies and practices was difficult
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Changing policies & practices was hard
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC13   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC12 gt .
Implementing the healthy eating and physical activity policies and
practices was disruptive and too time consuming
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Implementing HE&PA p&ps disruptive &time consuming
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC14   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC13 gt .
Ongoing support from Good for Kids support officers to implement the
healthy eating and physical activity practices would be useful
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Ongoing SO support would be useful
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC15   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC14 gt .
I am supportive of implementing the Good for Kids healthy eating and
physical activity policies and practices in my service.
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Support for implementing HE&PA p&ps
```

```
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC16   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC15 gt .
Educators at my service are motivated to implement the Good for Kids
healthy eating and physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Educators motivated to implement HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC17   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC16 gt .
Educators have a role to play in implementing the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Educators have a role in implementation
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC18   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC17 gt .
I am confident in implementing the healthy eating and physical
activity
policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Confidence in implementing HE&PA p&ps
***************** SINGLE CHOICE - CATI VERSION
****************************
CHCE  1 5       ACC19   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC18 gt .
I have sufficient skills to implement the healthy eating and
physical activity policies and practices
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Sufficient skills to implement HE&PA p&ps
```

```
********** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 5       ACC20   2                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC19 gt .
I have sound knowledge on children's nutrition and physical activity
requirements while in care
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Knowledge of nutrition & PA requirements
********** SINGLE CHOICE - CATI VERSION
**************************
CHCE  1 5       ACC21   3                       _MAKE_
LABEL
MODULE  SUBMODUL
ACC20 gt .
Implementing the HE and PA policies and practices recommended by the
Good for Kids program has had a negative impact on other areas of
children's learning or development
1       Strongly Agree
2       Agree
3       Disagree
4       Strongly Disagree
.R      Refused
Neg impact of HE&PA p&ps on other areas
********** SINGLE CHOICE - CATI VERSION
**************************
TABL  1 20      Advc    3    MM
NOLAB
MODULE  SUBMODUL4
ACC21 gt . or ((CONTAMO ne '' or CONTAM in (2,3,.R)) and timegp=2)
During the last 12 months, approximately how many children have
been injured requiring documentation? Please respond with both
serious injuries and minor injuries.
Nmiss                   0
Serious injuries                                N              0
50
Minor injuries                                  N              0
1000
Don't know                                      B    1
Refused                                         B    1
0                       1000
**********TABLE ENTRY ITEM - NO BUTTONS
************************
NUM   1         Advs    4    MM QINFORM        QFORMAT
LABEL
MODULE  SUBMODUL
Advc gt .
During the last 12 months, approximately how many staff have been
injured requiring documentation?

[INTERVIEWER NOTE: "Don't know" =888, "Refused/Prefer not to say"
=999]
0                       400
```

```
0                       1000
Number of staff injured
******************** NUMERIC OR DATE ENTRY - CATI VERSION
******************
INFO  1         thankyou5
NOLAB
MODULE  SUBMODUL
Advs gt .
That brings us to the end of the survey.

Thank you so much for answering those questions. The
information you've
provided will be used to help develop, deliver and
evaluate healthy
eating and physical activity programs to children's
services.
******************* INFORMATION SCREEN ITEM
*******************************
OPEN  1 200     quescomm3
LABEL
MODULE  SUBMODUL
thankyou=1
Do you have any questions or comments?

[INTERVIEWER NOTE: If no comments, type 'nil']
Questions or comments
******************* OPEN ENDED ENTRY ITEM
*********************************
INFO  1         FINAL   3
NOLAB
MODULE  SUBMODUL
quescomm ne ''
Thanks so much for your time today.

Have a great day. Goodbye.
******************* INFORMATION SCREEN ITEM
*******************************
TIME  1         T_END   0
LABEL
end     time
final=1
Recording end time
****************** GET DURATION ITEM
************************************
OPEN  1 200     comments4
LABEL
MODULE  SUBMODUL
T_END gt .
[INTERVIEWER NOTE: use this space to record any information that you
think the GFK team should know - Thank you!]

[INTERVIEWER NOTE: If no comments, type 'nil']
Interviewer comments
******************* OPEN ENDED ENTRY ITEM
*********************************
STAT  1         STAT_CQ 1
NOLAB
end     stat
```

```
comments gt ''
Completed
CQ
*********************************************************
******************
STAT  1         STAT_CB 1
NOLAB
CB     stat
intro4=1 or intro4a=1 or INTRO5x=1 or intro4x=1
Callback
CB
*********************************************************
******************
STAT  1         STAT_DR 1
NOLAB
DR     stat
introth ne ' ' or INTROTHx ne ' ' or INTROTH1 ne ' '
Refused
DR
*********************************************************
******************
STAT  1         STAT_D3 1
NOLAB
DR     stat
INTROTH2 ne ' '
Refused by third party
D3
*********************************************************
******************
STAT  1         STAT_OP 1
NOLAB
OP      stat
Thanks1x =1
OTHER PERSON NEEDED
OP
*********************************************************
******************
STAT  1         STAT_OS 1
NOLAB
OS      stat
Thanks1R=1
OUT OF SCOPE
OS
*********************************************************
******************
STAT  1         STAT_OT 1
NOLAB
OT      stat
INTROTH_ ne ' ' or service4=1
Other
OT
*********************************************************
******************
STAT  1         STAT_WN 1
NOLAB
OT      stat
service6=1
WRONG NUMBER
```

```
WN
*********************************************************
******************
INFO  1         Status1 3
NOLAB
MODULE  SUBMODUL
stat_cq='CQ'
THIS INTERVIEW IS A "CQ". WELL DONE!

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status2 3
NOLAB
MODULE  SUBMODUL
stat_cb='CB' or Thanksr=1
THIS INTERVIEW IS A "CB".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status3 3
NOLAB
MODULE  SUBMODUL
stat_DR='DR'
THIS INTERVIEW IS A "DR".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status4 3
NOLAB
MODULE  SUBMODUL
stat_D3='D3'
THIS INTERVIEW IS A "D3".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status5 4
NOLAB
MODULE  SUBMODUL
stat_OS='OS'
THIS INTERVIEW IS AN "OS".
THERE IS NO ONE AT THIS CENTRE WHO CAN PROVIDE THIS
INFORMATION.

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status6 5
NOLAB
MODULE  SUBMODUL
```

```
stat_OP='OP'
THIS INTERVIEW IS AN "OP".
ANOTHER PERSON IS NEEDED TO COMPLETE INTERVIEW.

PLEASE RECORD ON THE LOGSHEET & FILE LOGSHEET UNDER
'PROBLEMS'.
PRESS 'NEXT' to COMPLETE INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status7 3
NOLAB
MODULE  SUBMODUL
stat_OT='OT'
THIS INTERVIEW IS AN "OT".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  1         Status8 3
NOLAB
MODULE  SUBMODUL
stat_WN='WN'
THIS INTERVIEW IS AN "WN".

PLEASE RECORD ON THE LOGSHEET & PRESS 'NEXT' to COMPLETE
INTERVIEW.
************************* INFORMATION SCREEN
****************************
INFO  2         TERM    2
NOLAB
END     Term
status1=1 or status2=1 or status3=1 or status4=1 or
status5=1
or status6=1 or status7=1 or status8=1
INTERVIEWER TERMINATION INSTRUCTION, PRESS STOP
AND RECORD OUTCOME OF INTERVIEW ON LOG
************************* INFORMATION SCREEN
****************************
```