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Time to focus on implementation: the need to re-orient research on physical activity in childcare services

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The case for promoting physical activity in childcare services is compelling. Physical activity in childhood provides a number of physical and developmental benefits¹ and childcare services offer centralised access to large number of children each day. A number of childcare service policies and practices have been positively associated with increased child activity.² Systematic reviews have also demonstrated that physical activity interventions in this setting are effective.³

Poor implementation of evidence-based strategies

Implementation is a process whereby specific strategies are used to facilitate the adoption of evidence-based interventions and change practice patterns within a specific setting. It forms a key component of the Stage 3 research translation process described by the National Institute of Health (NIH). Difficulties associated with achieving population-wide implementation of evidence-based physical activity programs in childcare services have been reported in a number of countries. In a recently published Swiss trial, 56 childcare services were randomised into either a control group or government-led intervention group that received training, funding and ongoing group meetings to implement: physical activity promoting environments; daily physical activity programs; and strategies to encourage parental engagement in physical activity.⁴ Process data from the study indicated variable implementation of the program across services and the trial did not report any improvements in child physical activity.⁴

In the US, the Nutrition and Physical Activity Self Assessment for Child Care program

examined the impact of implementing a quality improvement intervention consisting of: a service environmental self-assessment tool; education workshops; and the provision of technical support for staff.⁵ The trial, which randomised 84 childcare services, failed to demonstrate a significant positive intervention effect on the physical activity promoting environments in childcare services.⁵ Similarly, in Australia, a large quasi-experimental trial of almost 400 childcare services found that a supportive intervention consisting of: staff training; performance feedback; incentives; and follow-up telephone support was only effective in improving two of eight evidence-based physical activity policies or practices.⁶ The unsuccessful implementation of physical activity interventions in childcare services is of considerable concern. Policies and practices known to increase physical activity cannot benefit children unless they are adequately implemented in the community.

Strategies to enhance implementation are lacking

Research synthesising systematic review evidence in health care settings suggests that while a number of strategies (including audit and feedback, academic detailing visits, computerised decision supports and opinion leaders) are effective, a comprehensive understanding of implementation barriers and the selection of appropriate implementations support strategies to overcome these is required to maximise their effectiveness.^{7,8} One impediment to the implementation of physical activity interventions may be the lack of research to inform the development of evidence-based implementation strategies. Research describing strategies to enhance

implementation represent less than 5% of all physical activity intervention research,⁹ and few studies have sought to identify the range of potential barriers to the implementation of physical activity policies and practices in settings such as childcare that would be hypothesised by comprehensive theoretical frameworks.^{10,11} A recent update of an Agency for Healthcare Research and Quality systematic review found that policy makers and practitioners are largely bereft of an evidence base to guide the development of population-wide implementation interventions in community settings more generally, and in childcare settings specifically.¹²

Future directions for 'implementation science'

While in its relative infancy, there is evidence that implementation science is beginning to develop as a discipline. In a number of developed countries, major government research funding schemes have been established to promote research translation through partnerships between researchers, industry, government and non-government organisations.^{4,13} Opportunities to disseminate the findings of public health implementation research are also increasing. The NIH has held an annual conference on the science of implementation since 2007 and, in Australia, the inaugural annual symposium on research translation was convened by the National Health and Medical Research Council (NHMRC) in 2012. Training workshops hosted by the NIH and

the Training Institute for Dissemination and Implementation Research in Health were also established in 2011. Such initiatives represent fundamental improvements in the amount of research infrastructure and capacity being dedicated to implementation research. These investments increase the likelihood that efficacious physical activity interventions (including those developed for childcare services) will be successfully implemented in the community and contribute to public health improvement.

Providing policy makers and practitioners with evidence-based strategies to facilitate the implementation of population-wide physical activity interventions in childcare services will maximise the potential health benefits that can be gained from research in this setting. To improve the likelihood of a change in childcare service practice, we must re-orient the focus of physical activity research towards implementation science.

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