Predictors and Outcomes of the Use of Mental Health Services: An Analysis of Observational Data

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Conflict of interest statement

No conflict of interest.

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Glossary of common abbreviations

Abbreviation	Description
1-year prevalence	Represents a hybrid type of prevalence between lifetime prevalence and point prevalence, where the history of the disorder within a year prior to assessment is documented (2).
ABS	Australian Bureau of Statistics
AIC	Akaike's information Criteria
AIHW	Australian Institute of Health and Well-being
ALSWH	Australian Longitudinal Study on Women's Health
ARIA	Accessibility/Remoteness Index of Australia
ASAM	Average standardised absolute mean
ASGC	Australian Statistical Geographical Classification
ATAPS	Access To Allied Psychology Services
ATE	Average treatment effect
ATT	Average treatment effect on the treated
BAS	Better Access Scheme
BIC	Bayesian Information Criteria
BMI	Body Mass Index
BOiMHC	Better Outcomes in Mental Health Care
CBT	Cognitive Behaviour Therapy
CI	Confidence Interval
CIMH	Committee for Incentives in Mental Health
COAG	Council of Australian Governments
DDD	Defined Daily Dose
EOI	Expression of Interest
GBD	Global Burden of Disease
GBM	Generalised Boosted Regression
GISCA	Geographic Information Systems
GMM	Growth Mixture Modelling
GP	General Practitioner
HAMD	Hamilton Depression (rating scale)
HREC	Human Research Ethics Committee
HRQoL	health-related Quality of Life

Abbreviation	Description
IPTW	Inverse Probability Treatment Weight
LMR	Lo-Mendell-Rubin (Likelihood ratio text)
LVMM	Latent Variable Mixture Models
MBS	Medicare Benefits Scheme
MOS	Medical Outcomes Study
MOU	Memorandum of Understanding
MSM	Marginal Structural Models
NICE	National Institute for Health and Clinical Excellence (UK)
NSW	New South Wales
OR	Odds ratio
PBS	Pharmaceutical Benefits Scheme
PSA	Publications, Sub-studies and Analyses
RCT	Randomised Controlled Trial
ROC	Receiver Operator Characteristic
RR	Relative Risk
SES	Socio-Economic Status
SF-36	Short Form 36
SSRI	Selective serotonin uptake inhibitor
SUTVA	Stable Unit Treatment Value
TCA	Tricyclic antidepressants
TCA	Tricyclic antidepressants
WHO	World Health Organisation
YD	Years living with a disability
YLD	Years lost to death

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Abstract

Mental illness is among one of the leading contributors to disease burden and has been ranked in the top ten public health concerns by the World Health Organisation. Global rates of depression in 2002 accounted for 4.5% of the total burden of disease with women more likely than men to be diagnosed. Treatment is a major component of recovery, with the most common treatment for mental illness being psychotherapy services and anti-depressant medications.

The Better Access Scheme initiative was introduced in 2006 under Medicare, Australia's universal healthcare system. The aim of the scheme was to provide affordable and accessible services for patients diagnosed with mental illness. The BAS provides general practitioner referral pathways for treatment therapies, which include subsidised services from allied mental health care practitioners, clinical psychologists, occupational therapists and psychiatrists.

The primary purpose of this thesis is to determine factors that predict use of the mental health services provided under Australia's Better Access Scheme. The thesis investigates the utilisation of the BAS treatment therapies and their impact on the Australian people, specifically, women with mental health problems. The thesis has been divided into two parts: one which examines the use of the mental health services by gender and the second which investigates treatment effects of the mental health services across three cohorts of women over a six year follow-up period. Four research studies are undertaken in this thesis to achieve the research aims and all analyses use observational data linked to administrative datasets.

The first part of the thesis examines predictors of mental health service use for both men and women. The study uses a large scale population dataset (the 45 and Up Study dataset) to provide self-reported information on the health and wellbeing of the participants which provides factors for the analysis. The participants were followed for a year after returning their survey and information about service use under the BAS was collected from the Medicare database. The study found that women were twice as likely as men to use the mental health services. In addition, patients with poorer mental health were accessing the government funded mental health services in Australia but this was only a tenth of this subset of the population. The results of this study support other studies that have shown age, being partnered, having higher educational qualifications, living in an urban area and having private health insurance to be key drivers for both men and women accessing the services. The findings also emphasise that men who have two or more alcoholic drinks a week and women classified as overweight or obese have decreased odds of using the services. Furthermore, the study shows men and women with

more severe psychosocial distress have at least three times the odds of using the mental health services.

The second part of the thesis involves three interlinked studies using linked data from the Australian Longitudinal Study on Women's Health (ALSWH). The ALSWH data consists of three cohorts of women identified as those born between 1973-78, 1945-51 and 1921-26. Participants were recruited in 1996 and surveyed on an ongoing three year rolling basis. The first study in this part of the thesis investigates the time taken for women to access a mental service under the BAS based on their area of residence. The findings indicate younger women from inner regional areas in Australia are more likely to have the longest time between having a GP mental health assessment and accessing care. The second study investigates treatment effects of the mental health services for women who have been defined as having poor mental health at the time the BAS was introduced. Women from each cohort are grouped into users and non-users of the services and a propensity score analysis is performed to predict the probability of each participant's need for using the mental health services. The findings show that users of the services are less likely to show improved mental health compared to non-users of the services after first follow-up for women of the 1973-78 and 1946-51 cohort . Treatment effects are not calculated for the 1921-26 cohort due to the small sample of women using the mental health services. The third study follows the 1973-78 cohort for a further follow-up period and finds improved mental health is seen for the user group of women who have successfully concluded treatment at second follow-up, showing an 11.1 mean point improvement in mental health score from their baseline score. Further, latent class analysis examines the different patterns of mental health service use for women of the 1973-78 cohort, showing six patterns of use exist.

The research presented in this thesis provides an in-depth analysis based on the Anderson-Newman model framework of the differing social, economic and health characteristics of Australian people but specifically women with mental health conditions. This research extensively examines the characteristics of those who do and do not use the treatment therapies, and identifies inequalities in usage of the BAS services. In conclusion, this thesis demonstrates the mental health outcomes for people using BAS services. Analyses included in the thesis utilise two large population-based datasets linked to administrative medical claims data to enable extensive quantitative analyses, including complex modelling (e.g. analyses using propensity scoring methods) that allows for observational data to be interpreted in a similar manner to that usually reserved for randomised controlled trials. This thesis provides a comprehensive understanding of the mental health care needs and service uptake and outcomes of the Australian people.