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Estimating treatment rates for mental disorders in Australia

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Abstract

Objective. To estimate the percentage of Australians with a mental disorder who received treatment for that disorder each year between 2006–07 and 2009–10.

Methods. We used: (1) epidemiological survey data to estimate the number of Australians with a mental disorder in any year; (2) a combination of administrative data on people receiving mental health care from the Commonwealth and State and Territories and epidemiological data to estimate the number receiving treatment; and (3) uncertainty modelling to estimate the effects of sampling error and assumptions on these estimates.

Results. The estimated population treatment rate for mental disorders in Australia increased from 37% in 2006–07 to 46% in 2009–10. The model estimate for 2006–07 (37%) was very similar to the estimated treatment rate in the 2007 National Survey of Mental Health and Wellbeing (35%), the only data available for external comparison. The uncertainty modelling suggested that the increased treatment rates over subsequent years could not be explained by sampling error or uncertainty in assumptions.

Conclusions. The introduction of the Commonwealth's Better Access initiative in November 2006 has been the driver for the increased the proportion of Australians with mental disorders who received treatment for those disorders over the period from 2006–07 to 2009–10.

What is known about the topic? Untreated mental disorders incur major economic costs and personal suffering. Governments need timely estimates of treatment rates to assess the effects of policy changes aimed at improving access to mental health services.

What does this paper add? Drawing upon a combination of epidemiological and administrative data sources, the present study estimated that the population treatment rate for mental disorders in Australia increased significantly from 37% in 2006–07 to 46% in 2009–10.

What are the implications for practitioners? Increased access to services is not sufficient to ensure good outcomes for those with mental disorders. It is also important to ensure that evidence-based treatment is provided to those Australians accessing these services.

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Introduction

Mental disorders such as anxiety, depression and substance use are a leading cause of disease burden, but available evidence suggests that only one-third of people with these disorders access treatment.[1,2] Untreated disorders incur major economic costs and personal suffering.[3,4]

It is challenging to estimate the proportion of people with mental disorders who receive treatment for them. The best such estimates come from nationally representative epidemiological surveys with high response rates, but these surveys are expensive and, in Australia, have only been performed in 1997 and 2007. Governments need more timely estimates of treatment rates to assess the effects of policy changes. Such estimates require an indirect methodology.

A major policy change was introduced in Australia in November 2006 when the Commonwealth allowed psychologists and credentialled social workers and occupational therapists to claim Medicare rebates for patients referred by general practitioners. There was a dramatic uptake of these Better Access Medicare Benefits Schedule (MBS) items,[5] but it is not known whether this increased population treatment rates.

In the absence of another nationally representative population survey we used administrative data on health service utilisation collected by the Commonwealth, states and territories to estimate treatment rates for mental disorders since 2006. Because these data were incomplete, we used several different datasets and assumptions to fill data gaps. This paper describes a six-step approach to estimate treatment rates for the period from 2006–07 to 2009–10.

Methods and Results

Step 1: population estimates

Step 1 required population estimates in age groupings (0–15, 16–64, 65–74, 75+ years) that were selected to align with epidemiological data on the prevalence of mental disorders and to allow estimates to be made for those over 65 years of age.[6]

Step 2: estimated numbers of people with a mental disorder in the past year

An estimate of the number of people with a mental disorder in the past year was made for each age group, drawing on prevalence estimates from Australian and international epidemiological studies. Age-specific prevalence estimates for mental disorders were summed to provide a total population prevalence rate for each year (see Table 1).

Table 1. Estimated prevalence and number of people with a mental disorder by age group

Age group	Prevalence	No. of people with 12-month disorders			
		2006–07	2007–08	2008–09	2009–10
0–15 years	15.4%	674 141	681 546	690 366	697 657
16–64 years	22.2%	3 089 046	3 158 081	3 230 351	3 282 449
65–74 years	13.6%	197 087	202 750	210 740	219 523
75+ years	16.1%	210 359	214 342	218 280	223 092
Total	20.1%	4 170 634	4 256 720	4 349 738	4 422 721

Prevalence in the 0–15 year age group was estimated using the New South Wales Mental Health Clinical Care and Prevention Model (MH-CCP),[7] which estimates the prevalence of mental disorder in all age groups. The MH-CCP model estimates were preferred to those from the survey of mental disorders in the Australian child and adolescent population in 1998[8] because the MH-CCP provided an estimate for the 0–15 year age group (rather than the 4–17 year age group covered by the survey).

For the 16–64 year age group, prevalence rates were estimated from the 2007 Australian Bureau of Statistics (ABS) National Survey of Mental Health and Wellbeing (NSMHWB).[9] The NSMHWB also enabled estimates to be derived for those aged 65–84 years, but the survey sample excluded elderly people in hospitals and aged care residential facilities. Therefore, we drew our estimates of the prevalence of mental disorders in people over 65 years of age from the MH-CCP model, which included prevalence estimates among elderly people in hospitals and aged care facilities.

Step 3: estimated number of people receiving mental health treatment in each year

In Step 3 we estimated the number of people receiving treatment from services funded to deliver mental health treatment by combining administrative datasets maintained by the Commonwealth and by states and territories. These are summarised in Table 2.

The Commonwealth data on mental health-specific MBS items comprised two patient groups. The first was patient counts derived from general practitioner (GP) mental health-specific items where a GP was the only provider of the mental health service (MBS funded mental health services–GP only). This included GP-specific MBS items under the Better Access program,[10] along with a small number of other mental health items claimable by GPs. Identification of GPs who used these items was essential in estimating the services to people with mental disorder

Table 2. Estimated numbers of people with a current mental illness seen by mental health-specific services
MBS, Medicare Benefits Schedule; DVA, Department of Veterans' Affairs; GP, general practitioner

	2006–07	2007–08	2008–09	2009–10
State and territory mental health services	353 068	352 388	363 203	367 870
MBS-funded mental health services (GP only)	235 285	386 885	485 056	533 261
MBS-funded mental health services not included in the counts above	413 990	620 519	740 455	833 519
DVA mental health care	63 415	60 815	58 151	55 628
Total	1 065 758	1 420 607	1 646 865	1 790 278

where no MBS mental health-specific item was claimed (see Step 4).

The second group was comprised of all other MBS mental health-specific items that included services delivered by psychiatrists and Better Access-funded allied health providers and a small number of other allied health professional services, such as those provided through the MBS Enhanced Primary Care program (data provided by the Commonwealth Department of Health and Ageing, Costing Information & Analysis Section, Medicare Financing and Analysis Branch, Medical Benefits Division, 2011, unpubl. data).

For the Department of Veterans Affairs (DVA), estimates were based on a study that enumerated the number of people in the DVA population treated for a mental disorder in 2000.[11] Defence force personnel who received mental health services from in-house Australian Defence Force mental health providers were not counted because no reliable estimates were available.

The state and territory data came from counts of people receiving one or more community mental health services submitted by each state and territory to the Commonwealth Department of Health and Ageing in reporting progress against the National Healthcare Agreement.[12] Data for Victoria had to be adjusted to the per capita estimates of all jurisdictions to take account of its higher threshold for reporting a 'case'.

The state and territory counts excluded people treated as hospital inpatients and in community residential services. No estimate was made for these because state and territory officials advised that the majority of these people would be counted in community mental health or GP services. The number of individuals remaining in hospital for more than 1 year was too small to affect the total estimate.

People seen in mental health programs provided by non-governmental organisations (NGOs) and funded by state and territory governments were also not included. These provide specialised community support and the majority of these cases would be included in the state clinical services counts. In some jurisdictions, people treated by state-funded community health centres are significant, but there were no national unique client counts.

The approximately 24 000 people treated in private psychiatric hospitals were also excluded from the estimates because they would be counted in the MBS data on people seen by psychiatrists or GPs.

Step 4: people receiving mental health care not included in mental health-specific services

In Step 4 we estimated the number of people who received treatment for their mental disorder who were not already included in Step 3. These comprised two main groups. The first group consisted of patients whose GPs did not use MBS mental health items when treating them. We subtracted the number of people treated by GPs using MBS-specific items in the 2006–07 MBS data ($n = 399\,051$) from the estimated number of people with a current disorder treated by GPs in the 2007 NSMHWB ($n = 1\,032\,550$). From these 633 449 people, a further correction was necessary to account for the fact that the 2006–07 MBS data indicate that only 59% of people with a current mental disorder seen by GPs received GP-only mental health care: 59% of the 633 449 people seen by GPs produced an estimate of 373 518 people with a current mental disorder who were treated by GPs in 2006–07 and not counted elsewhere in the MBS data. We made estimates for subsequent years after allowing for growth in the number of people treated by GPs since 2006–07 (estimated from Bettering the Evaluation And Care of Health (BEACH) annual surveys).[13] The BEACH data suggest that after a period of relative stability, the number of GP mental health-related encounters increased by 24.0% from 2006–07 to 2009–10, or 16.7% when adjusted for population growth (Table 3).[13] The estimated overall mental health work load of GPs is given in Table 4.

The second group consisted of patients receiving mental health care from other service providers not counted elsewhere. This includes patients seen by specialist medical practitioners funded through the MBS (e.g. paediatricians who treat children with mental disorders), public hospitals and regional health centres that do not have a specific mental health unit or team (and are not included in state and territory patient data), mental health services reimbursed by private third party insurers (e.g. accident and injury compensation funds, private health insurance funds) or those self-funded by the patient.

The 2007 NSMHWB estimated that 6.6% of people with a mental disorder in the past year sought treatment from a 'non mental health specialist' (e.g. 'other doctors', 'other health professionals' and complementary and alternative health practitioners). When those people who also consulted specialist and non-specialist mental health providers were removed, the estimate reduced to 1.6%. This is probably an underestimate because it excludes patients admitted to general hospitals without

Table 3. Per capita growth in general practitioner mental health encounters, from 2006–07 to 2009–10
BEACH, Bettering the Evaluation And Care of Health

	2006–07	2007–08	2008–09	2009–10
Mental health-related encounters per 1000 population (BEACH)	514	560	610	600
Cumulative growth in mental health encounters per 1000 since 2006–07		8.9%	18.7%	16.7%

Table 4. Number and percentage of the population consulting a general practitioner for a mental disorder, from 2006–07 to 2009–10
GPs, general practitioners

	2006–07	2007–08	2008–09	2009–10
Estimated no. of people with a mental disorder treated by GPs	1 032 550	1 147 704	1 277 320	1 277 950
% population	4.9	5.3	5.8	5.7

a specialised psychiatric unit and people treated by psychiatrists and psychologists whose treatment was funded by something other than the MBS. In the absence of better information, we used 4.1%, as the midpoint of the 1.6%–6.6% range, to estimate the number of people treated by 'other health services'.

Table 5 estimates the number of people with a mental disorder treated by GPs who were not counted elsewhere in the MBS data. These estimates declined steeply between 2006 and 2010, reflecting growth in Better Access-funded mental health-specific GP services. The number of people with a current mental disorder who sought treatment for that disorder from a 'non mental health specialist' health care practitioner is provided in Table 6.

Step 5: removing duplication

Counts within states and territories, and Commonwealth person counts for MBS providers, are of unique clients, but people who receive both Commonwealth and state and territory services will be counted twice. An accurate estimate of the overlap would require linkage of records for individuals. In the absence of such a link, we reduced the number of people treated in state services by 15%. This was based on the proportion of people seen by state and territory mental health services for 'assessment only' who we assumed would be referred to (and counted in) MBS-funded or 'Other' health services. These estimates are shown in Table 7.

Given the foregoing assumptions and analyses, we can estimate treatment rates for mental disorders in Australia in each year by dividing the final patient counts in each year (shown at Step 5) by the estimated number of people who had a mental illness in that year (shown at Step 2). These results are given in Table 8.

Step 6: assessing the effects of uncertainty on estimates

We undertook Monte Carlo simulations to assess the effects of uncertainty in key parameters and assumptions used to produce our estimates. This modelling assessed the extent to which apparent increases in the proportion of people with mental disorders who received mental health treatment may be due to sampling error or uncertainty in key parameters used in the model. The details of this work are described elsewhere[5] and are available from the authors.

The results of the uncertainty modelling (Table 9) showed three things. First, the estimated proportion of people with a current mental illness who received treatment increased steadily each year from 37.4% in 2006–07 to 46.1% in 2009–10, a 23.3% growth with an absolute increase of 8.7% in the national treatment rates. Second, the 95% uncertainty intervals indicated uncertainty

Table 5. People with a mental disorder treated by a general practitioner not counted in Medicare Benefits Schedule mental health-specific items, from 2006–07 to 2009–10

GPs, general practitioners; MBS, Medicare Benefits Schedule

	2006–07	2007–08	2008–09	2009–10
Estimated no. of people with a mental disorder treated by GPs (A)	1 032 550	1 147 704	1 277 320	1 277 950
No. of people recorded as treated by GPs under MBS mental health-specific items (B)	399 051	728 274	920 398	1 038 051
Estimated person undercount in MBS mental health-specific GP data (C = A – B)	633 499	419 430	356 922	239 899
Estimated % GP-only mental health care (D)	59.0%	53.1%	52.7%	51.4%
Estimated no. of people with a mental disorder treated exclusively by GPs who are not counted in MBS data (E = C × D)	373 518	222 816	188 100	123 240
As a percentage of the no. of people with a mental disorder treated by GPs (= E ÷ A)	36.2%	19.4%	14.7%	9.6%

Table 6. Estimated number of people with a current mental illness seen by other health services

GP, general practitioner; MBS, Medicare Benefits Schedule

	2006–07	2007–08	2008–09	2009–10
MBS-funded GP services not billed as mental health items	373 518	222 816	188 100	123 240
Other health service providers	170 996	174 526	178 339	181 332
Total	544 514	397 342	366 440	304 571

Table 7. People with a current mental disorder seen by health services with duplication removed

MHS, mental health service; MBS, Medicare Benefits Schedule; GP, general practitioner; DVA, Department of Veterans' Affairs

	2006–07	2007–08	2008–09	2009–10
State and territory MHS, adjusted to remove duplication	300 108	299 530	308 722	312 689
MBS-funded mental health services (GP only)	235 285	386 885	485 056	533 261
MBS-funded services, other providers (±GP)	413 990	620 519	740 455	833 519
DVA mental health care	63 415	60 815	58 151	55 628
MBS-funded GP services not billed as mental health items	373 518	222 816	188 100	123 240
Other health services	170 996	174 526	178 339	181 332
Total	1 557 313	1 765 091	1 958 824	2 039 668

Table 8. Estimated percentage of Australians with a current mental illness who received mental health treatment, from 2006–07 to 2009–10
MBS, Medicare Benefits Schedule; GP, general practitioner; DVA, Department of Veterans' Affairs

	2006–07	2007–08	2008–09	2009–10
State and territory mental health services (adjusted)	7.2%	7.0%	7.1%	7.1%
MBS-funded mental health services (GP only)	5.6%	9.1%	11.2%	12.1%
MBS-funded services, other providers (±GP)	9.9%	14.6%	17.0%	18.8%
DVA mental health care	1.5%	1.4%	1.3%	1.3%
MBS-funded GP services not billed as mental health items	9.0%	5.2%	4.3%	2.8%
Other health services	4.1%	4.1%	4.1%	4.1%
Total	37.3%	41.5%	45.0%	46.1%

Table 9. Percentage of people with a mental disorder treated, results of uncertainty modelling
CI, confidence interval

Year	Mean	95% CI
2006–07	37.4	35.0–39.6
2007–08	41.5	39.7–43.7
2008–09	45.0	42.7–47.3
2009–10	46.1	43.8–48.4

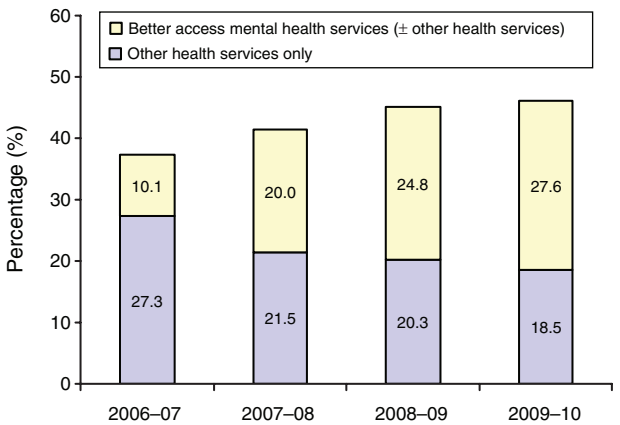

Fig. 1. Percentage of people with mental disorders in the total Australian population treated using Better Access mental health services and other health services, from 2006–07 to 2009–10.

around each of these estimates, but they generally fell within ±3.9% of the mean estimate. Third, the increase between 2006–07 and 2008–09 in the percentage of people with a mental disorder who received treatment was unlikely to be due to sampling variations data. We can be less confident about the smaller increase between the last 2 years of the period, which may mean a slowing in the percentage treated in the most recent period.

The analysis also indicates that the Federal Government's policy initiative, namely the Better Access program, was the sole driver of increased treatment rates for mental disorders. Figure 1 shows the contribution made by Better Access to overall treatment rates estimated by our model. The percentage of people with a mental disorder who were treated using Better Access mental health services (alone or in addition to other health services) rose from 10.1% in 2006–07 to 27.6% in 2009–10. In 2006–07, Better Access accounted for more than one-quarter (27%) of all people treated, and this increased to 48% in 2007–08, 55% in 2008–09 and 60% in 2009–10.

Discussion

This paper describes the first attempt to estimate changes in treatment rates for mental disorders at a national level in Australia over time using a combination of epidemiological data and administrative datasets. Owing to the incomplete nature of these datasets, assumptions have had to be made at various stages of the modelling. We have described each of these and believe that, overall, we have been conservative.

In addition, we have made an attempt to assess the validity of parts of the model. We compared the estimates for 2006–07 derived from service utilisation data at Step 7 with the estimates of treatment rates found in the 2007 NSMHWB, the only source available for external comparison. The NSMHWB found an overall treatment rate of 35% for the Australian population in 2007. Our estimate of 37.3% derived from the 2006–07 administrative data was very close.

The increase in the population treatment rate for mental disorders in Australia from 37% in 2006–07 to 46% in 2009–10 is remarkable by international standards. No other country of which we are aware has demonstrated such an increase within 3 years. Data on the severity symptoms reported by people treated under Better Access suggest that this is not simply an artefact of GP consultations for other than mental disorders being claimed for providing mental health care.[5]

Unless there are changes to the Commonwealth-funded MBS programs for mental health care, we expect treatment rates to continue to rise, but by how much is an important policy issue that is outside the scope of the present paper. We also recognise that increased access to services is not sufficient to ensure good outcomes for those with mental disorders. It is also important to ensure that evidence-based treatment is provided to those Australians accessing these services.

Competing interests

The authors declare they have no competing interests.

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