Better Outcomes in Mental Health Care — a general practice perspective

Julian E Thomas, Amy Jasper and Morton Rawlin

THE BURDEN OF DISEASE AND INJURY report of 1999 noted that the "remarkable progress in the physical and material wellbeing for most Australians over the twentieth century has not necessarily been matched by gains in mental and subjective wellbeing". In 1996, mental illness was associated with nearly 30% of the non-fatal disease burden in Australia.[1]

The need for a national approach to mental health reform was formally acknowledged with the development in 1992 of the National Mental Health Strategy, which gave birth to the National Mental Health Plan 1992–1998,[2] and was subsequently reaffirmed by the second and third National Mental Health Plans in 1998[3] and 2003.[4]

As a part of the strategy, and in response to the need for primary care-led mental health reform, in 2001 the Australian Government established the Better Outcomes in Mental Health Care program (BOMHC), funded to $120.4 million over 4 years.[5] The 2005 federal budget maintained and expanded funding for a further 4 years.

This paper provides an overview of the implementation and uptake of the BOMHC program.

Mental health reform in Australia is integrally linked to general practice. General practitioners see 85% of the population and provide around 94 million individual episodes of care each year.[6] GPs are the first choice of three quarters of people with a mental health problem who seek professional assistance — although it is estimated only 38% do so.[7]

Recognising that most people with a mental illness seek professional help first from their GP, the aim of the BOMHC program is to support GPs in improving the quality of care provided through general practice to Australians with a mental illness by providing mental health education and training for GPs and more support for them from allied health professionals and psychiatrists. BOMHC also introduced incentives to address the financial barriers for GPs to provide longer consultations often needed for good mental health care.

BOMHC has enjoyed strong support from GPs in terms of enrolments, particularly in rural areas (Box 1 and Box 2). An initial rush of "early adopters" has been followed by a consistent and sustained influx of about 60 GPs signing on each month. At 31 Dec 2005, Royal Australian College of General Practitioners (RACGP) records indicate that 4424 GPs had applied to the General Practice Mental Health Standards Collaboration (GPMHSC) and been certified eligible to register with the program, representing around 20% of the workforce, with uptake of registration in rural areas the strongest.

In support of its overall objectives, the BOMHC program has five main components comprising:

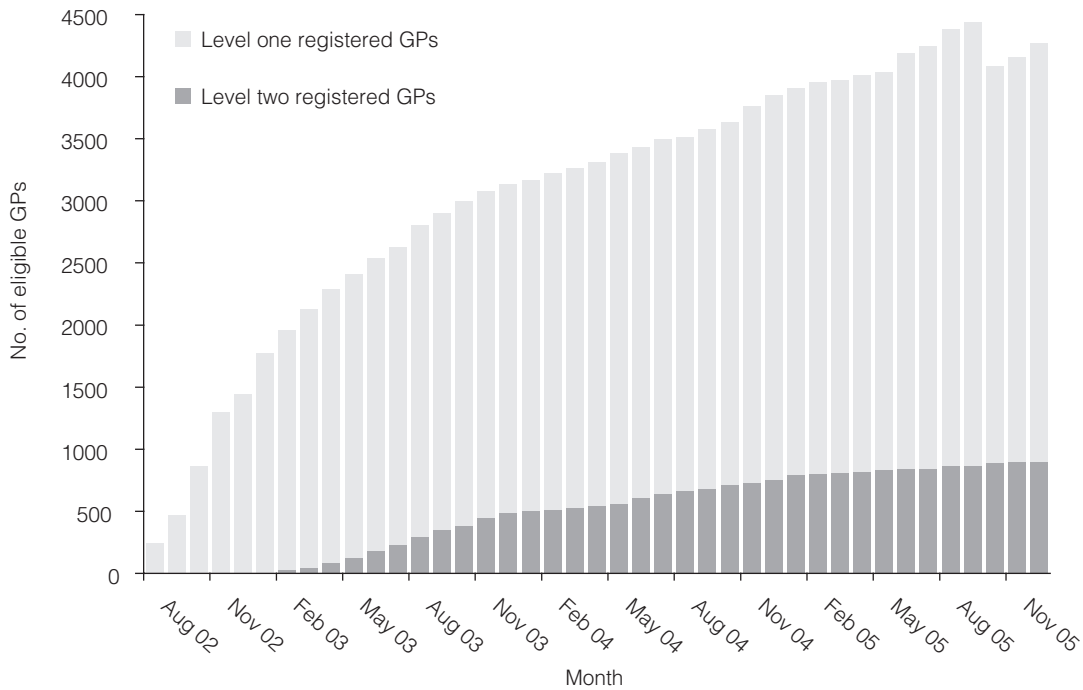
- three step mental health process;
- education and training for GPs;
- focused psychological strategies;
- access to allied psychological services;and
- access to psychiatrist support.

This paper aims to briefly describe each of these components and reflect on key aspects of implementation and uptake.

Julian E Thomas, BA/BSc, CertIV A&WT, GradDip(IT), Project Officer – Mental Health, General Practice Mental Health Standards Collaboration
Amy Jasper, DAppSci(Nursing), BAppSci(Ad Nursing), GradDip(Human Services), MBA, Senior Project Officer
Morton Rawlin, BMed, FRACGP, FACRRM, MMedSci, Director; and Project Manager, General Practice Mental Health Standards Collaboration
Education Services, Royal Australian College of General Practitioners, Melbourne, VIC.

Correspondence: Mr Julian E Thomas, Education Services, Royal Australian College of General Practitioners, College House, 1 Palmerston Cres, South Melbourne, VIC 3205. **julian.thomas@racgp.org.au**

1 GPs certified eligible to register for the Better Outcomes in Mental Health Care Program by the General Practice Mental Health Standards Collaboration



3 step mental health process

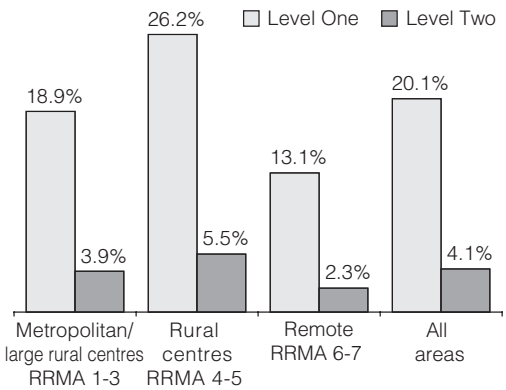
Since 2002, service incentive payments have been provided to registered GPs to undertake a mental health assessment, develop and implement a mental health plan, and conduct a subsequent mental health review — a "3 Step Mental Health Process".[9]

The 3 Step Mental Health Process (MHP) encourages a structured and evidence-based approach to continuity of and quality of care. The process includes the use of evidence-based outcome measures, patient psychoeducation, provision of a written mental health plan, planned review, and other components of care which have been shown to enhance patient outcomes. The incentives associated with the 3 Step MHP also go some way towards removing financial disincentives in the four tier Medicare Benefits Schedule consultation structure to undertake longer consultations often necessary for good mental health care.

Since implementation, feedback from GPs and GP organisations suggests that a number of barriers exist to completing and claiming the 3 Step MHP, which have had an impact on the number of claims reported by Medicare Australia. Some of these barriers may include (in no particular order):

- difficulties in scheduling the required number of 20-minute consultations;
- "red tape" in relation to the complexity of the suggested proformas for mental health assessments, plans and reviews;
- objections to "labelling" a consumer with a mental health-specific item number;
- some consumers do not return for the Mental Health Review — consequently the GP is unable to trigger the incentive payment;
- administrative complexities arising from the service incentive payment system (eg, goods and services tax is charged on service incentive payments), and delayed payment;

2 Proportion of GP population, by region of practice,* certified eligible to register for Better Outcomes in Mental Health Care by the General Practice Mental Health Standards Collaboration



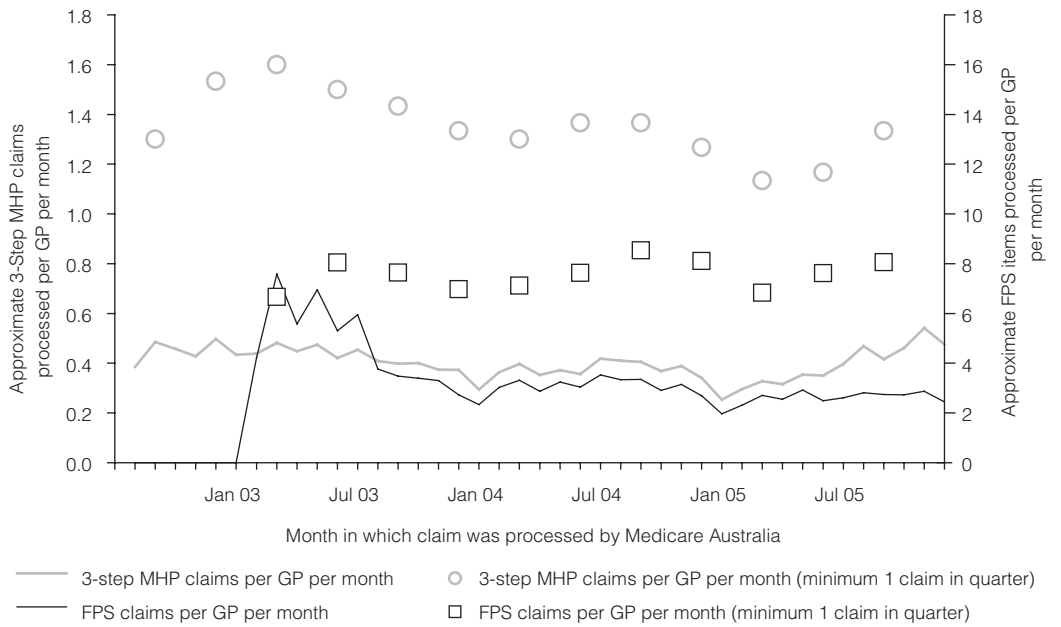
** Region of practice determined by the Rural, Remote and Metropolitan Areas classification system.*[8]

- requirement for services to be provided from a general practice which is RACGP accredited and/or participating in the Practice Incentives Program;
- personal methodologies of practice which are not suited to the structure of a 3 Step MHP.

Changes (in the May and November 2005 Medicare Benefits Schedule) were designed to address key barriers to accessing incentive payments, reducing the number of 20-minute consultations required from three to two, and requiring that only the Mental Health Review step need be a "planned" consultation. The clinical aspects of the 3 Step MHP have not changed.

There are some encouraging early signs that the changes may have a positive impact on rates of uptake, with total claims and actively claiming GPs (defined as having at least one 3 Step MHP claim in a quarter) up by 23% and 26%, respectively, from the same period one year earlier, compared with a 12% increase in GP registrations over the same period. Averaged across all eligible GPs, claims reached their highest level yet in

3 Better Outcomes in Mental Health Care Medicare Benefits Schedule item usage



Step MHP = 3 step mental health process. FPS = focused psychological strategies.

4 Estimated hours completed in General Practice Mental Health Standards Collaboration-accredited formal continuing professional development activities, 1 January 2002 to 31 December 2005

Better outcomes registration status	GP age	Metropolitan/ large rural centre* RRMA 1-3 (*n*=14501)	Rural* RRMA 4-5 (*n*=2145)	Remote* RRMA 6-7 (*n*=189)	Female† (*n*=6217)	Male† (*n*=10619)	All in sample (*n*=17103)
Level One registered‡ (n = 2795) Minimum clinical training requirement 6hrs	Under 40	16.2	14.8	15.5§	16.1	15.5	15.9
	40–49	20.2	17.1	18.8§	20.5	18.8	19.7
	50–59	22.8	20.5	16.1§	24.3	21.4	22.6
	60–65	22.5	21.1§	11.0§	24.2	21.2	22.2
	Over 65	25.8	16.5§	–	22.2	25.0	24.5
	Unknown (n = 59)	35.8	14.3§	–	27.8	39.7	33.6
	All ages	21.3	17.9	16.8§	21.1	20.4	20.8
Level Two registered‡ (*n* = 740) Minimum clinical training requirement 26hrs	Under 40	47.3	37.6	20.0§	40.9	51.8	45.4
	40–49	43.5	39.9	29.5§	43.7	41.8	42.9
	50–59	49.3	45.2	30.0§	51.1	45.0	48.3
	60–65	50.8	55.1	39.0§	55.6	48.4	51.2
	Over 65	45.3§	34.5§	–	58.4§	37.8§	46.0§
	Unknown (n = 14)	38.8§	50.5§	–	43.5§	34.0§	42.1§
	All ages	46.7	43.2	29.7§	47.2	44.6	46.1
Not registered (*n* = 13568)	Under 40	3.7	4.7	3.0§	4.3	3.3	3.8
	40–49	4.9	4.9	7.6	6.2	4.1	4.9
	50–59	5.9	5.7	6.0§	7.3	5.4	5.9
	60–65	6.2	5.5	4.7§	7.8	5.7	6.1
	Over 65	5.6	5.2	12.4§	7.8	5.4	5.6
	Unknown (n = 369)	6.0	6.5§	7.0§	6.9	5.7	6.1
	All ages	5.3	5.2	6.1	6.3	4.8	5.3
All GPs		9.5	10.3	8.3	12.3	8.1	9.6

* Region of practice determined by the Rural, Remote and Metropolitan Areas classification system.[8] 268 GPs' postcodes were not matched to an RRMA classification. †267 GPs did not have a gender recorded by the Quality Assurance and Continuing Professional Development (QA&CPD) Program. ‡ Figures based on GPMHSC data for the number of applicant GPs deemed eligible for registration, and may vary from Medicare Australia data. § fewer than 50 GPs in this category

GPs included in the sample shared the following characteristics:

— QA&CPD participants at 1/1/2004 (ie, at least 2 years participation)

— not deceased, retired, on leave, participating in the Australian College of Rural and Remote Medicine's Professional Development Program or out of clinical practice at 1/2/06

— not based overseas or GP registrars at 1/2/06

Activities included in the sample shared the following characteristics:

— Accredited by the GPMHSC as Level One Mental Health Skills Training, Level Two Mental Health Skills Training or mental health CPD

— "Hours" were determined through an approximation based on points awarded and the type of activity. From 1/1/2005, points were capped, and so estimates are low in many cases

— From 1/1/2005, only "substantial" activities of 6hrs+ could gain GPMHSC mental health accreditation; other CPD in mental health has been excluded, making year-to-year comparisons unreliable ◆

November 2005, at 0.54 claims per month per BOMHC-registered GP (Box 3).

Further monitoring of the rates of claiming will provide a stronger indication of whether the recent upturn in completed 3 Step MHPs will be sustained.

Education and training for GPs

A key component of the BOMHC program aimed to achieve better outcomes for consumers by providing high quality education and training opportunities in mental health for GPs. Consequently, GP incentive payments and ATAPS (access to allied psychological services) referrals are contingent on completion of education and training programs accredited by the GPMHSC, and a commitment on the part of registered GPs to continuing professional development in mental health. (Lists of accredited programs and the standards which underpin them are available at <www.racgp.org.au/mentalhealth>)

The types of training accredited under the BOMHC program are:

- *Familiarisation training (2 hours):* provides GPs with a background to the BOMHC program and the supports now available to GPs.
- *Level One mental health skills training (6 hours plus):* aims to increase GPs' knowledge and skills in relation to undertaking a 3 Step MHP for high prevalence mental health disorders.
- *Level Two mental health skills training (20 hours plus):* seeks to provide GPs with the skills to provide focused psychological strategies.
- *Mental health continuing professional development:* represents other GPMHSC-accredited training for GPs but is not "entry point" training for Level One or Level Two.

The standards underpinning the training reflect the breadth of representation within the GPMHSC from general practice, consumers, carers, psychiatry and psychology. Of particular note, in addition to clinical and educational criteria, all Level One and Level Two mental health skills training must meet rigorous requirements for genuine and meaningful consumer and carer involvement within planning, development, and evaluation — a breadth and depth of engagement that has been without broad precedent in continuing medical education. From 2006, appropriately experienced and supported consumers and carers also are expected to participate in delivery of training.

The increasing engagement of the consumer and carer sector within mental health training for GPs reflects the priority placed on consumer and carer participation in all three National Mental Health Plans.

The best available data on formal professional development by GPs are held by The Royal Australian College of General Practitioners' Quality Assurance and Continuing Professional Development (QA&CPD) Program. The following focuses on aggregated data over 4 years from 2002 to 2005; unfortunately, there are little available data in relation to uptake of mental health professional development by Australian GPs before the BOMHC program.

QA&CPD program data show participation by GPs in an average of 5.3 hours of GPMHSC-accredited, formal CPD in mental health over the 4 years (Box 4). Participation in mental health CPD appears to be strongly associated with registration with BOMHC: Level One GPs completed 3.9 times as many hours of formal CPD in mental health as non-registered GPs, while for Level Two GPs the difference was a factor of 8.7. For BOMHC-registered GPs, increasing rurality appears to be associated with a relative decrease in average CPD in mental health, although participation is still substantially higher than non-BOMHC-registered GPs.

Differences in the amount of training undertaken by female GPs were not as pronounced in the BOMHC-registered cohort as they were for non-registered GPs, but overall, female GPs undertook more training in mental health than their male counterparts.

While a desirable outcome to training GPs is improved health outcomes in consumers, measures of such outcomes in relation to care provided by BOMHC-registered GPs are not readily available. Anecdotally, the committee overseeing the education and training component of the

5 Three step mental health process and FPS claims per quarter for general practitioners with at least one FPS claim in that quarter

Medicare Australia processing quarter	Completed 3 step mental health processes	No. of individual claiming GPs in quarter	3 step process claims per quarter per GP with at least 1 claim	FPS item claims	No. of individual claiming GPs in quarter	FPS claims per quarter per GP with at least 1 claim
2005.3	5824	1454	4.0	7038	291	24.2
2005.2	4397	1246	3.5	6531	286	22.8
2005.1	3597	1062	3.4	5573	272	20.5
2004.4	4393	1153	3.8	6417	264	24.3
2004.3	4741	1154	4.1	6657	260	25.6
2004.2	3959	977	4.1	5216	228	22.9
2004.1	3398	880	3.9	4487	210	21.4
2003.4	3518	884	4.0	4120	197	20.9
2003.3	3491	803	4.3	3693	161	22.9
2003.2	3224	717	4.5	2293	95	24.1
2003.1	2644	546	4.8	460	23	20.0
2002.4	1671	366	4.6	–	–	–
2002.3	323	82	3.9	–	–	–
	Average per quarter		4.07	Average per quarter		22.70

Derived from data available at Medicare Australia <http://www.medicareaustralia.gov.au/providers/health_statistics/statistical_reporting/medicare.htm> (accessed Feb 06). Lists of accredited programs and the standards which underpin them are available at www.racgp.org.au/mentalhealth (accessed Feb 06). FPS = focused psychological strategies. ◆

BOMHC program (the GPMHSC) believes that the quality of training available to GPs has improved over the BOMHC period, although there are little independent evaluative data available.

There are some signs that while there has not been an increase in the presentation, identification and management of depressive disorders in general practice in the period since 1998, there have been some changes in management approaches.[6] Provision of psychological counselling by GPs has increased by about 15% between 1998–99 and 2004–05.[6] Over the same period, prescription of selective serotonin reuptake inhibitors and serotonin–noradrenaline reuptake inhibitors continued a long-term upward trend.[6]

Although rates of presentation to and management by GPs may not to have risen, initiatives such as "*beyondblue*: the National Depression Initiative" do appear to be having an impact on community awareness about mental illness (particularly depression), with 69% of respondents to a recent survey reporting exposure to depression-related information in the preceding 12 months, and 62% reporting awareness of *beyondblue*.[10]

As it has been estimated that 23% of the adult population experience a mental health disorder in any given year,[11] increasing consumer access and the capacity of mental health services and increasing the link between awareness of mental illness and help-seeking behaviour must be continuing priorities.

Further research into associations between CPD in mental health on GPs' knowledge, skills, attitudes and behaviour in practice, and, ideally, on consumer health outcomes, will also significantly inform future strategies for workforce upskilling. In particular, attention needs to be paid to models of supervision and support for GPs who are providing higher levels of mental health care (eg, Level Two GPs), possibly drawing on and adapting structures commonly accessed by other mental health professionals.

Focused psychological strategies

Focused psychological strategies (FPS) are specific mental health care treatment strategies, derived from evidence-based psychological therapies. They have been shown to integrate the best research evidence of clinical effectiveness with general practice clinical expertise. FPS can be delivered by allied health professionals under the ATAPS programs, or by GPs trained and registered at Level Two.[12]

Box 5 shows that Medicare Australia has processed an average of 22.7 claims per quarter for provision of FPS by registered GPs with at least one FPS claim in the quarter, with this group of active claimants representing about one third of Level Two-registered GPs.

A factor in uptake of the items may be that a proportion of GPs complete training to increase their understanding of FPS and make more informed referrals, without intending to formally provide these services in the relatively structured way required to claim the item numbers. Alternatively, Level Two training may not provide many GPs with adequate confidence in the use of FPS. Further investigation is required to identify barriers to use of the items.

Other factors which may affect reported uptake may be that some "counselling GPs" may provide services from a non-accredited location, or choose not to use the 3 Step MHP structure for patient management — a requirement to bill the FPS items.

Exploratory economic modelling in relation to supporting FPS interventions through provision of training to GPs suggests that a relatively modest effect would give an acceptable cost–effectiveness ratio.[13] However, while provision of FPS within the ATAPS programs has been associated with positive outcomes for consumers, similar data for FPS delivered by trained GPs in the BOMHC model are not readily available, although projects such as the Primary Care Evidence Based Psychological Interventions study currently under way in Victoria aim to fill this gap.

As new research emerges about which psychological approaches are most likely to be effective and practical in the general practice context, the FPS which are supported by Medicare will need to be periodically reviewed to ensure that the BOMHC program continues to support practice which is underpinned by the best available evidence.

Further investigation into effective means of training, supporting and providing clinical supervision to GPs may also enhance GP provision of psychological interventions. Particularly in areas where alternative mental health care is limited (such as in many rural and remote communities), GPs who provide care, including psychological interventions for more complex or more serious conditions, may need higher levels of ongoing support.

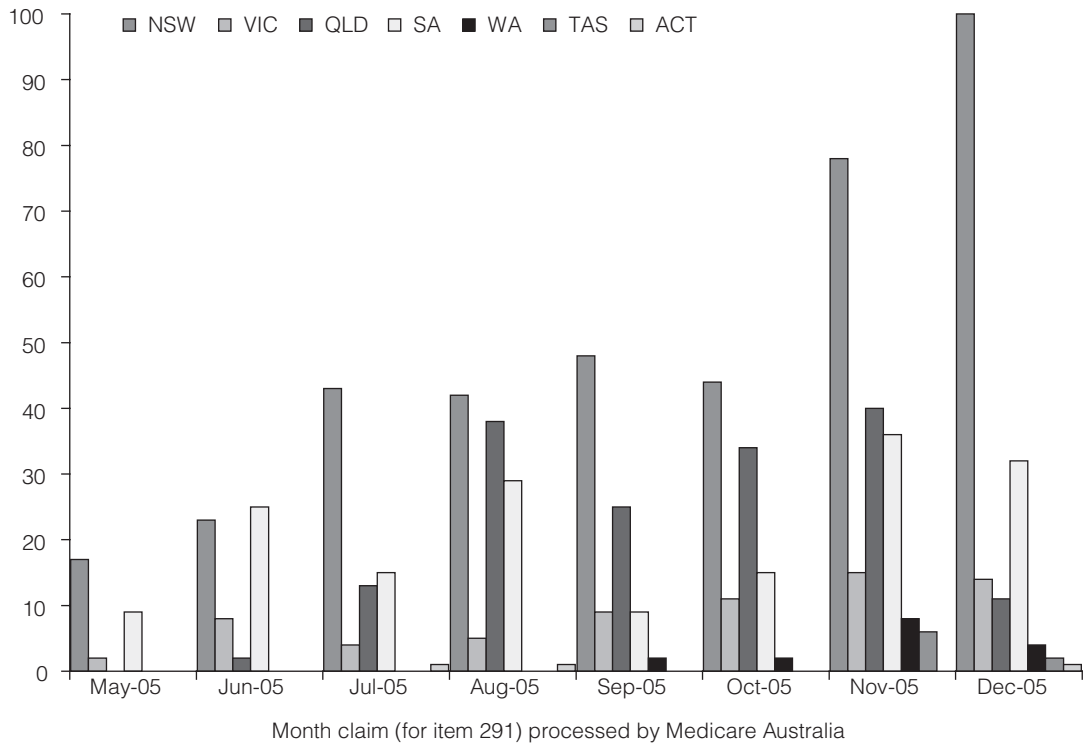
Access to allied psychological services

Within the context of a 3 Step MHP, consumers can be referred (through participating Divisions of General Practice) to an appropriately credentialled allied health professional for provision of up to 6 sessions of FPS, with a further 6 sessions possible after review by the referring GP. Services provided under ATAPS are generally free or at low cost to consumers.

One-hundred and eight Divisions of General Practice now have ATAPS projects operating, covering 116 Divisions in total, and the number of GPs making referrals has significantly increased since data were first collected in the third quarter of 2003. The most recent data available indicate that 1266 GPs made referrals to 627 allied health professionals in the second quarter of 2005, while over the life of the program, 2980 GPs and 1040 allied health professionals (90% of whom are psychologists) have participated.[14]

There have been a number of barriers reported by GPs in relation to the ATAPS projects, including remuneration issues, paper work associated with referrals, variable levels of feedback and information exchange from the allied health staff and the "hurdles" of education and training mandated before program access. However, the most

6 GP–psychiatry liaison: uptake of referred assessment and management plans



recent interim evaluation of the ATAPS programs concludes that many of the administrative and "red tape" barriers are diminishing with time, as GPs and Divisions refine their project models and processes.[14]

While participation by GPs in the BOMHC program has exceeded initial expectations, with about 4 in 5 GPs *not* registered with BOMHC, and some Divisions not participating in the projects, there are equity of access issues affecting many consumers.

There is encouraging evidence to show that the ATAPS component is achieving the desired better outcomes for consumers from access to psychological care and improved collaboration between GPs and allied health professionals.[14] These data, while preliminary, suggest that the ATAPS projects deserve continued support and potential expansion. Appropriately modified ATAPS projects may provide useful models for initiatives addressing health inequalities associated with social, cultural, or economic disadvantage.

Access to psychiatrist support

A suite of programs aims to increase access to psychiatrist support by general practice, including a national non–emergency clinical advisory service (GP Psych Support), new Medicare Benefits Schedule items to support consultant psychiatry, and case conferencing by psychiatrists.

The consultation–liaison psychiatry items introduced in May 2005 have enjoyed modest uptake nationally, with 823 patients billed for individual assessments and management plans provided to GPs by psychiatrists between May and December 2005.[15] There is significant variation between the states (Box 6), although while overall item usage is probably too low to draw conclusions about long-term sustainability, the strong growth in use of the

items in NSW and SA in particular suggests that they are finding their place in patient management.

An evaluation of the consultation–liaison items and the systems and protocols that support their use should focus on identifying barriers to uptake for psychiatrists and GPs, including an examination of factors in differential uptake in different jurisdictions, and consider the impact these items have had on increasing access to psychiatrists by consumers.

The national phone, fax and email advisory service funded under BOMHC, "GP Psych Support", has received a significant volume of contacts from GPs, in most cases with a response provided within 2 hours. Between the launch of the service in 2004 and December 2005, 3291 requests for advice were submitted to the service (GP Psych Support, unpublished volume data); questions from GPs related predominantly to medication; and a third of registrations with the service were from GPs in rural areas.[16] The service now provides advice from specialists in child and adolescent psychiatry, and drug and alcohol psychiatry. Early evaluations are highly positive in relation to the accessibility, usefulness and quality of the service.[16] Further information on the service can be accessed from <www.psychsupport.com.au>.

Supporting mechanisms to improve communication and professional liaison between general practice and psychiatric professions at all levels is an important aspect of the BOMHC program, particularly in a time of workforce shortage for both GPs and psychiatrists. Efficient and effective use of limited clinical resources continues to be a short- and medium-term goal, and must be complemented by longer term strategies to address workforce issues.

Conclusion

Many aspects of the BOMHC program appear to be successful — in particular, the uptake of education and training by GPs, and the ATAPS component. There is no doubt that more support is now available to help GPs provide better mental health care to their patients; there is also an implication in the uptake of support programs and initiatives by GPs that GPs working collaboratively with other mental health professionals may be more common.

With the exception of limited information from the ATAPS component, concrete data on the key goal for the BOMHC program — better mental health outcomes for consumers of primary mental health services — are largely unavailable. Long-term evaluation of the program needs to consider which aspects of the program are doing the most for mental health outcomes to ensure that the most effective and efficient mix of evidence-based training, support and incentives are available to GPs within a whole-of-community approach to mental health.

Associations between training, incentives and psychiatric or psychological support, and health outcomes need to be further explored as part of a comprehensive and iterative evaluative framework, to enable the lessons of the BOMHC program to inform future policy in key areas such as youth and indigenous mental health. Links between the BOMHC program and other arms of the National Mental Health Strategy should also be strengthened, to ensure that their implementation strategies are complementary, and to consolidate policy successes.

There is a long way to go in mental health reform, but progress is promising; the recent inclusion of mental health for the first time on the agenda for the Council of Australian Governments' February 2006 meeting is a sign that momentum remains strong. Continued and sustainable reform which makes a real difference to Australia's mental health will require commitment from politicians and policy makers, the mental health sector and the community to fully implement the priorities outlined in the third National Mental Health Plan.

Acknowledgement

The Royal Australian College of General Practitioners is funded to auspice the General Practice Mental Health Standards Collaboration by the Australian Government Department of Health and Ageing as part of the National Mental Health Strategy.

Competing interests

The authors declare that they have no competing interests.

References

1 Mathers C, Vos T, Stevenson C. The burden of disease and injury in Australia. Canberra: AIHW, 1999. (AIHW cat. no. PHE 17.)

2 Australian Health Ministers. National Mental Health Plan. Canberra, 1992.

3 Australian Health Ministers. Second National Mental Health Plan. Canberra: Mental Health Branch, Commonwealth Department of Health and Family Services, 1998.

4 Australian Health Ministers. National Mental Health Plan 2003-2008. Canberra: Australian Government, 2003.

5 Hickie I, Groom G. Primary care led mental health service reform: an outline of the Better Outcomes in Mental Health Care initiative. *Australas Psychiatry* 2002; 10: 376-82.

6 Britt H, Miller GC, Knox S, et al. General practice activity in Australia 2004–05. Canberra: Australian Institute of Health and Welfare (General Practice Series No. 18), 2005. (AIHW Cat. No. GEP 18.)

7 Australian Bureau of Statistics. National Survey of Mental Health and Wellbeing in Adults. Canberra: Australian Bureau of Statistics, 1997.

8 Australian Government Department of Health ad Ageing. Rural, remote and metropolitan areas classification system. Available at: <http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-workforce-bmp-rrma.htm> (accessed Feb 2006).

9 Department of Health and Ageing. Medicare Benefits Schedule Book. Canberra: Medicare Australia, Nov 2005: 63-5.

10 Highet NJ, Luscombe GM, Davenport TA, et al. Positive relationships between public awareness activity and recognition of the impacts of depression in Australia. *Aust N Z J Psychiatry* 2006; 40: 55-8.

11 Andrews G, Henderson S, Hall W. Prevalence, comorbidity, disability and service utilisation. Overview of the Australian National Mental Health Survey. *Br J Psychiatry* 2002; 178: 145-53.

12 Australian Divisions of General Practice. Familiarisation training GP and practice manual (3rd ed). Canberra: ADGP, 2005.

13 Mihalopolous C, Kirololous L, Shih STF, et al. Exploratory economic analyses of two primary care mental health projects: implications for sustainability. *Med J Aust* 2005; 183 (10 Suppl): S73-6.

14 Kohn F, Morley B, Pirkis J, et al. Evaluating the Access to allied psychological services component of the Better Outcomes in Mental Health Care Program. Sixth interim evaluation report. Melbourne: Program Evaluation Unit, University of Melbourne, 2005.

15 Medicare Australia. Available at: <http://www.medicareaustralia.gov.au/providers/health_statistics/statistical_reporting/medicare.htm> (accessed Feb 06).

16 Bradstock SE, Wilson AJ, Cullen MJ, Barwell KL. Telephone-based psychiatry advice service for general practitioners. *Med J Aust* 2005 18; 183: 90.

(Received 14 Feb 2006, accepted 19 Feb 2006) □