

# Responding to experiences of young people with common mental health problems attending Australian general practice

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Although the onset of 75% of the major mental disorders and alcohol or other substance misuse is before the age of 25 years,<sup>1,2</sup> most young people with common anxiety or depressive disorders report 5–15-year delays before they receive care.<sup>2</sup> This is despite the growing evidence that there is great potential for achieving better functional outcomes during the earlier phases of illness.<sup>3,4</sup> Additionally, development of early intervention services is the highest community priority for major mental health service reform.<sup>5</sup> These imperatives have been recognised by the Australian Government through its new youth mental health initiative.<sup>5,6</sup> Within this national and international context, the roles to be played and the interventions to be provided by various forms of primary health care are actively debated.<sup>3,4</sup> The debate reflects the lack of a clear evidence base for best practice when treating young people, as well as the persistence of quite divergent models of current practice.<sup>7,8</sup>

Possible types of services cover a wide range, including: novel e-health forms, which are typically clinician-independent (eg, MoodGym: <http://moodgym.anu.edu.au>);<sup>9,10</sup> more conventional telephony-based contacts;<sup>11,12</sup> targeted youth health services (although these often employ only minor or covert mental health components); and conventional general practice-based services. However, only some of the latter have specific youth-appropriate service links or provide the style of psychological services most appropriate to the earliest phases of common anxiety or depressive disorders.<sup>13,14</sup>

Here, we focus on data reflecting young people's experiences of primary care in Australia over the past decade. We also consider the likely effectiveness of enhanced general practice-based service models ("collaborative" or "stepped" care) for young people.

## Methods

Data presented here were obtained from two distinct nationwide general practice clinical audits conducted during 1998–1999 and 2000–2002.

### SPHERE national audit sample 1998–1999

General practice clinical audit data were obtained during the conduct of "SPHERE: a national depression project".<sup>13–15</sup> In total, 46 515 patients attending 386 general practitioners completed the 34-item SPHERE questionnaire and provided information on actual experiences of care. The detailed methods, survey instruments, recruitment processes, and participation rates have been described previously.<sup>16</sup> We focus on new analyses of data collected from participants aged between 18 and 25 years ( $n = 5957$ ).

### SPHERE national audit sample 2000–2002

A similar audit of general practices was conducted during 2000 and 2002. Information was collected from a total of 2735 participants and 30 general practices. Data from participants aged between 16 and 25 years ( $n = 394$ ) are reported here. This second audit included doctors recruited through the Compass Strategy, a

## ABSTRACT

- The development of evidence-based ("collaborative care") mental health services in primary care for young people with anxiety, depression and alcohol or other substance misuse is a major challenge.
- Data from two clinical audits of selected Australian general practices (1998–1999 and 2000–2002) were analysed to explore actual experiences of care among people aged 16–25 years.
- Syndromal (1998–1999: 31.0% [ $n = 1849/5957$ ]; 2000–2002: 37.8% [ $n = 148/392$ ]) and subsyndromal (1998–1999: 27.4% [ $n = 1635/5957$ ]; 2000–2002: 29.1% [ $n = 114/392$ ]) mental disorders are very common among young people presenting to general practitioners. However, a mental health diagnosis (1998–1999: 42.6% [ $n = 740/1736$ ]; 2000–2002: 52.0% [ $n = 77/148$ ]) or provision of formal treatment (1998–1999: 36.1% [ $n = 600/1661$ ]; 2000–2002: 51.7% [ $n = 74/143$ ]) occurs in only about half of the patients with syndromal conditions.
- While some active treatment was received by 19.4% (1998–1999 [ $n = 1018/5236$ ]) and 35.9% (2000–2002 [ $n = 133/370$ ]) of the young people, respectively, the most commonly reported interventions were non-pharmacological alone (1998–1999: 13.1% [ $n = 687/5236$ ]; 2000–2002: 22.4% [ $n = 83/370$ ]) or non-pharmacological and pharmacological combinations (1998–1999: 4.1% [ $n = 214/5236$ ]; 2000–2002: 10.3% [ $n = 38/370$ ]). Only rarely is pharmacological treatment alone provided (1998–1999: 2.2% [ $n = 117/5236$ ]; 2000–2002: 3.2% [ $n = 12/370$ ]).
- New systems of primary care for young people need to be based on proven collaborative care models and encourage presentations for care, increase detection rates, and promote access to information and effective e-health services. Improved access to specific psychological treatments should remain a priority.

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project aiming to increase access to services among people aged 12–25 years by targeting behavioural difficulties and first episodes of psychosis or mood disorder.<sup>17</sup> Additionally, doctors were recruited through Divisions of General Practice participating in other mental health service enhancement programs.

## Measures

The 12-item SPHERE questionnaire is a screening tool for common mental disorders, comprising two scales related to somatic distress and psychological distress.<sup>16</sup> Participants were scored as asymptomatic, subsyndromal (a case on only one scale of the SPHERE-12), or syndromal (a case on both SPHERE-12 scales). People who meet the threshold for being syndromal are highly likely to have lifetime diagnoses of formal mental disorder.

**1 Agreement between general practitioner's diagnosis and patient self-report for somatic and psychological disturbance**

GP's diagnosis	Self-report		
	No disorder	Subsyndromal	Syndromal
<b>A: SPHERE national audit sample 1998–1999 (n = 5549)</b>			
No disorder	2043 (36.8%)	1170 (21.1%)	996 (17.9%)
Disorder	256 (4.6%)	344 (6.2%)	740 (13.3%)
<b>B: SPHERE national audit sample 2000–2002 (n = 392)</b>			
No disorder	107 (27.3%)	73 (18.6%)	71 (18.1%)
Disorder	23 (5.9%)	41 (10.5%)	77 (19.6%)

ders and to be experiencing significant levels of current disability.<sup>16</sup> Participants also reported whether they had received a formal mental health diagnosis from their doctor, any treatments used, and whether they had been referred to other services for treatment.

**Results**

**SPHERE national audit sample 1998–1999**

Of those young people who consulted a GP for any reason, 31.0% (n = 1849/5957) had discrete (syndromal) mental disorders and a further 27.4% (n = 1635/5957) had subsyndromal disturbances. However, of all young people presenting, only 24.1% (n = 1340/5549) received a formal diagnosis and 19.4% (n = 1018/5236) were provided with an active medical or psychological treatment. Among those with the more severe or clearly syndromal conditions, only 42.6% (n = 740/1736) received a diagnosis and 36.1% (n = 600/1661) formal treatment (Box 1A and Box 2). When GPs did provide active treatments for young people, they were much more likely to provide non-pharmacological treatment alone (13.1% [n = 687/5236]), or in combination with antidepressant therapy (4.1% [n = 214/5236]), than medications without concurrent psychological interventions (2.2% [n = 117/5236]). With regard to co-treatment with other health professionals, only a minority of participants (4.7% [n = 281/5957]) reported being referred to another mental health service (Box 3). Among young people with self-reported syndromal conditions, 90.4% (n = 1671/1849) were not referred to another service.

**SPHERE national audit sample 2000–2002**

Similar results were observed in the later phase of the national audit. Of all young people who consulted a GP, 37.8% (n = 148/392) had discrete (syndromal) mental disorders and a further 29.1% (n = 114/392) had subsyndromal disturbances. Of all young people presenting, 35.9% (n = 141/392) received a formal diagnosis and 35.9% (n = 133/370) were provided with an active medical or psychological treatment. Among those with syndromal conditions, 52.0% (n = 77/148) received a diagnosis and 51.7% (n = 74/143) formal treatment (Box 1B and Box 2). As with the first audit, when GPs did provide active treatments they commonly provided non-pharmacological treatment alone (22.4% [n = 83/370]), or in combination with antidepressant therapy (10.3% [n = 38/370]), rather than medications alone (3.2% [n = 12/370]). With regard to co-treatment with other health professionals, only 58 participants (14.8% [n = 58/392]) reported referral to another mental health service (Box 3). Among people with self-reported syndromal conditions, 80.4% (n = 119/148) were not referred to another service.

**Evidence-based elements of enhanced care**

Primary care models of mental health services for adults have undergone considerable development in recent years. The emphasis has moved from notions of simply increasing detection rates,<sup>18</sup> or making better use of GPs' time, to the provision of integrated medical and psychological care to reduce long-term morbidity.<sup>19</sup> This has led to the development of formal collaborative care systems where primary care medical services are linked proactively with timely specialist psychology and psychiatry services. Such integrated service systems have established superior efficacy to standard primary care models against both short- and longer-term health outcome measures.<sup>8,19,20</sup> In such systems, a high priority is also placed on tracking of individual outcomes through the use of telephony-based or relevant recall systems. By contrast with much earlier general practice-based research, these models provide real hope that better outcomes can be achieved through the timely provision of cost-effective services.

The development and evaluation of such models has focused largely on adults with well established anxiety or depressive disorders. We cannot simply assume that such systems will prove effective for younger people with subsyndromal or less specific forms of anxiety or depression, or for those in the earlier phases of illness (ie, with less chronic or relapsing conditions). They may also not be effective in younger people in whom such disorders are

**2 Treatments received by young people from general practitioners for mental disorders by symptom severity\***

GP's treatment	SPHERE national audit sample 1998–1999 (n = 5236)			SPHERE national audit sample 2000–2002 (n = 370)		
	Self-report			Self-report		
	No disorder	Subsyndromal	Syndromal	No disorder	Subsyndromal	Syndromal
No treatment/no specific treatment	1989 (92.4%)	1168 (82.2%)	1061 (63.9%)	98 (81.7%)	70 (65.4%)	69 (48.3%)
Non-pharmacological	136 (6.3%)	193 (13.6%)	358 (21.6%)	19 (15.8%)	27 (25.2%)	37 (25.9%)
Antidepressants	11 (0.5%)	20 (1.4%)	86 (5.2%)	1 (0.8%)	6 (5.6%)	5 (3.5%)
Antidepressants and non-pharmacological	17 (0.8%)	41 (2.9%)	156 (9.4%)	2 (1.7%)	4 (3.7%)	32 (22.4%)
<b>Total</b>	<b>2153 (100.0%)</b>	<b>1422 (100.0%)</b>	<b>1661 (100.0%)</b>	<b>120 (100.0%)</b>	<b>107 (100.0%)</b>	<b>143 (100.0%)</b>

\* Includes antidepressants, mood stabilisers, sedatives.

**3 Referrals of young persons by general practitioners to other mental health services\***

Referral to:	SPHERE national audit	
	1998–1999 (n = 5957)	2000–2002 (n = 394)
Psychiatrist	93 (1.6%)	12 (3.1%)
Psychologist/social worker	62 (1.0%)	11 (2.8%)
Community mental health service	33 (0.6%)	—
Hospital/emergency services	15 (0.3%)	4 (1.2%)
Drug and/or alcohol services	—	9 (2.3%)
Other	92 (1.5%)	29 (7.4%)

\* Categories are not mutually exclusive. ♦

frequently complicated by alcohol or other substance misuse. Consequently, we suggest that it is necessary to delineate the individual components of these models that are likely to be relevant to young people with early phases of disabling anxiety or depressive disorders. Each of these elements could then be provided in integrated or well supported forms of enhanced primary care (Box 4). The actual effects of providing any or all of these components to young people will then require further systematic evaluation.

**Discussion**

Clinical audit data from the management of young people in Australian general practice over the past decade provide us with the basis for promoting the development of better quality services. While the data have limitations related to the periods of collection, as well as the fundamental nature of cross-sectional audits, they demonstrate the size and scope of the reforms that are likely to be necessary. Major service adjustments and related changes in professional priorities are required to lift identification and intervention rates to acceptable levels. Use of pharmacological therapies alone, or in combination with psychological approaches, does not appear to be excessive. Increased access of young people to psychological therapies should remain a high priority, particularly as a first-line therapy for those in the early stages of illness. It is not yet apparent, however, that recent Medicare enhancements for psychological services will actually increase access for young people.<sup>8</sup>

Even in the later SPHERE data set (with GPs recruited through the Compass Strategy who were strongly committed to improving young people's access to services), young people with disabling disorders (and those at high risk of progression to illness) were still receiving relatively low levels of care. In our view, this reflects a lack of a systematic approach to identifying and providing appropriate and evidence-based interventions rather than any individual doctor-based failure. New programs should aim to incorporate a wide range of population and practice-based strategies that promote early identification and key elements of the collaborative care model (Box 4).

Community surveys indicate that young people are already very aware of the high prevalence of mental disorders (eg, depression), frequently recognise these disorders in themselves or in family members, and are familiar with the potential benefits of the major interventions available.<sup>17,27</sup> What is clearly missing is a willingness

to use professional services.<sup>29</sup> A strong trend is to rely on peer, family and other non-professional support. In our view, this reflects two factors, namely the community's broader lack of experience with the potential benefits of professional services, as well as the more general disconnection between younger people and medical services. By contrast, older people who visited GPs for general medical services were more likely to use the same practitioners for their mental health needs<sup>14</sup> and receive better mental health care.<sup>13,14</sup>

Unfortunately, the data reported here indicate that detection and treatment of common mental disorders, even in those who do actually decide to seek general medical care, remain the exception rather than the rule. Additionally, there was surprisingly little evidence of medical practitioners making use of other highly skilled practitioners or providing integrated, effective care for which there is a clear evidence-base.<sup>8,19</sup> However, as these data were collected before the more recent incentives for more integrated styles of general practice,<sup>8,37</sup> it is possible that some improvements will now occur.

Some have argued that one-off comparisons of patient self-report and concurrent rates of diagnosis or treatment by doctors are poor indicators of the overall quality of mental health care in general practice.<sup>40,41</sup> However, this view assumes that most patients with mental disorders will be in contact with the practice on multiple occasions. Unfortunately, general practice utilisation data in Australia indicate that young people are infrequent attendees and are also less likely than middle-aged or older people to seek mental health assistance from their doctor.<sup>8,27</sup> Therefore, in young people, the cross-sectional method is more representative of the genuine "missed opportunity" rate than other longitudinal strategies. Additionally, some other particular sociodemographic, educational and geographical factors (eg, being male, having a lower income, living a greater distance from a general practice) have strong effects on reducing the frequency of attendance by certain at-risk groups.<sup>7,26</sup>

Another common criticism is that more severe cases are detected and treated and that high under-recognition rates are largely limited to brief or non-disabling disorders.<sup>41,42</sup> However, as the SPHERE diagnostic system utilises three levels of case-determination (and is, therefore, quasi-dimensional) and is non-specific rather than specific in nature (ie, does not distinguish anxiety from depression or other narrow clinical categories), we can examine the relationship to severity. The data presented here clearly indicate that, even among young people with more severe disorders, identification and treatment rates are unacceptably low. We suggest that our quasi-dimensional approach is particularly important when considering the non-specific diagnostic status of young people, and that it actually promotes the use of safe and simple information or web-based psychological strategies for early intervention in those with less severe forms of illness or those in the earlier phases of their illness. Thus, it is consistent with an illness-stage model, where earlier phases of illness are identified but treated with the least harmful interventions available.<sup>3</sup> While it may be reasonable to limit medical therapies to those with well established or chronically disabling disorders, not providing any informational or psychological interventions to young people at high risk, those with emerging disorders, or those in the early phases of illness, risks both lost opportunity and, potentially, great harm.<sup>4,43</sup>

**4 Evidence-based elements of enhanced primary care for young people with common mental health problems**

Element of care	Identified problems	Possible solutions
Use of primary care health services by young people for early phases of mental health problems	<ul style="list-style-type: none"> <li>• Under-utilisation relative to community prevalence<sup>21,22</sup> and despite evidence of benefits of cost-effective treatments<sup>23,24</sup></li> <li>• Financial, geographical and professional barriers to use of services by young people with mental disorders<sup>5,7,14,23,25,26</sup></li> <li>• Personal, peer and family attitudinal barriers to use of professional rather than non-professional and self-help strategies by young people<sup>17,27</sup></li> <li>• Few reports of benefits of using services relative to frequent reports of adverse events<sup>5,25</sup></li> <li>• Targeted critiques of the roles of doctors and the use of medical therapies for psychological disorders<sup>28</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Increased community awareness of mental health problems and the availability of effective treatments<sup>17,29,30</sup> (data reported here)</li> <li>• Development of youth-specific engagement strategies<sup>17,31</sup></li> <li>• Removal of health service, insurance and other structural barriers to primary care use<sup>5,25,32,33</sup></li> <li>• Promotion of pathways to clinical care through relevant e-health and other informational devices<sup>9,10</sup></li> <li>• Localised campaigns to promote use of relevant mental health services<sup>31</sup></li> </ul>
Increased detection of common mental health problems in young people presenting to primary care	<ul style="list-style-type: none"> <li>• Low detection rates in young people in general practice settings (data reported here)</li> <li>• Systems of primary care management and organisation that are not suited to the detection of mental health problems<sup>7</sup></li> <li>• Lack of expectation of mental health problems in young people attending primary medical care<sup>14</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Use of appropriate mental health screening tools in primary care<sup>18</sup></li> <li>• Increased willingness to report symptoms by young people<sup>17,31</sup> (data reported here)</li> <li>• Changes to practice environments to promote enhanced care<sup>26,17,34,35</sup></li> <li>• Support for relevant mental health training linked to relevant forms of practice reform<sup>35</sup></li> <li>• Promotion of relevant self-diagnosis tools via e-health and other strategies<sup>9,32</sup></li> </ul>
Provision of informational strategies to youth with common mental health problems	<ul style="list-style-type: none"> <li>• Lack of awareness of the benefits of engagement with evidence-based self-help and professional strategies as compared with complementary or non-professional strategies (data reported here)</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of access to specific e-health strategies<sup>9,28,32</sup></li> <li>• Broad community strategies that provide evidence of benefits of care<sup>17,29</sup></li> </ul>
Provision of any evidence-based intervention for common mental disorders	<ul style="list-style-type: none"> <li>• Fewer evidence-based treatments given to young people has been associated with less reduction in suicide rates than seen in older people<sup>36</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Increased provision of all evidence-based treatments to those young people who present for care<sup>36</sup></li> </ul>
Provision of specific psychological and counselling services in primary care settings	<ul style="list-style-type: none"> <li>• Lack of provision of skilled psychological and counselling services in primary care<sup>13,25</sup></li> <li>• Difficulties accessing services due to financial, geographical and other practice-based factors<sup>7,25</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Development of integrated collaborative care models<sup>19</sup></li> <li>• Financial support for provision of psychological and counselling services<sup>5,34,37,38</sup></li> <li>• Training programs for GPs and other health professionals to increase the provision of non-pharmacological forms of care<sup>35</sup></li> </ul>
Long-term provision of effective care	<ul style="list-style-type: none"> <li>• Poor adherence to medical or psychological therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Youth-appropriate strategies including SMS (short message service) reminders,<sup>39</sup> or peer-mediated counselling online</li> </ul>

While community awareness initiatives<sup>17,32,33</sup> are important for increasing general community knowledge about mental disorders and their treatments, as well as shaping more positive attitudes,<sup>27,29</sup> it is clear that what is now needed is increased access to active treatments, and particularly psychological, informational, behavioural, e-health and other non-pharmacological options to match the stage of illness.<sup>3</sup> What is also needed is reporting of actual experiences of care, including the fact that most services provided in the past by GPs were largely non-pharmacological and that we can now expect the absolute number and proportion of these services to grow in the future.

Importantly, such notions of enhanced primary care are now possible in Australia as a result of major recent changes in the national finance mechanisms available to GPs, allied health professionals and psychiatrists. Further, the development of communities of youth services within the framework of the National Youth Mental

Health Foundation (*headspace*) provides considerable opportunity for systematic research and evaluation of new systems of care.

The challenges involved in developing new youth-appropriate primary care services are numerous, but include:

- increasing young people's access to such services, by meeting the challenges of cost, distribution, stigma, privacy, and linking to other relevant medical, alcohol and drug services;
- providing the style of services that young people most seek, by attending to the issues of youth preferences for first use of counselling rather than medication-based interventions;
- focusing workforce training and development largely on early-intervention models and the provision of brief but concurrent alcohol and drug interventions; and
- providing evidence-based psychological and medical services (despite young people's strong preferences for non-professional and non-evidence-based lifestyle and social adjustments).

Major resource, structural and professional challenges may continue to impede the movement towards the rapid development of such new systems.<sup>8,34,38</sup> Our previous audit of primary care practice showed that those GPs who saw a large number of patients per day and worked in solo practitioner-style environments delivered the poorest quality mental health care.<sup>7,13,14</sup> Even though a range of other mechanisms (such as group-based psychological therapies and new Medicare Benefits Schedule (MBS) item numbers for integrated psychiatrist–GP care) were supported under previous primary care-based mental health reforms,<sup>37</sup> they were not widely used. At the top of community concerns has been the lack of access to affordable psychological services.<sup>6</sup> By supporting new MBS items for GPs, psychologists and other allied health professionals who provide these services (either to individual patients or in groups), one of the major structural barriers to improved quality of practice has been removed. The challenge now is whether the relevant health professionals, with the support of their representative professional bodies, actually begin to restructure practice to deliver evidence-based collaborative care and, thereby, actually meet community expectations and public health needs.<sup>8</sup>

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**Competing interests**

None identified.

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**References**

- 1 Kim-Cohen J, Caspi A, Moffitt TE, et al. Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Arch Gen Psychiatry* 2003; 60: 709-717.
- 2 Kessler RC, Berglund P, Demler O, et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry* 2005; 62: 593-602.
- 3 McGorry P, Hickie IB, Yung AR, et al. Clinical staging of psychiatric disorders: a heuristic framework for choosing earlier, safer and more effective interventions. *Aust N Z J Psychiatry* 2006; 40: 616-622.

- 4 Patel V, Flisher A, Hetrick S, et al. Adolescent health 3: mental health of young people: a global public health challenge. *Lancet* 2007; 369: 1302-1313.
- 5 Hickie I, Groom G, McGorry P, et al. Australian mental health reform: time for real outcomes. *Med J Aust* 2005; 182: 401-406.
- 6 *headspace*: National Youth Mental Health Foundation [website]. <http://www.headspace.org.au> (accessed Mar 2007).
- 7 Davenport TA, Hickie I, Naismith SL, et al. Variability and predictors of mental disorder rates and medical practitioner responses across Australian general practices. *Med J Aust* 2001; 175 (2 Suppl): S37-S41.
- 8 Hickie I, McGorry P. Increased access to evidence-based primary mental health care: will the implementation match the rhetoric? *Med J Aust* 2007; 187: 100-103.
- 9 Christensen H, Griffiths KM, Jorm AF. Delivering interventions for depression by using the internet: randomised controlled trial. *BMJ* 2004; 328: 265-268.
- 10 Griffiths KM, Christensen H, Jorm AF, et al. Effect of web-based depression literacy and cognitive-behavioural therapy interventions on stigmatising attitudes to depression — randomised controlled trial. *Br J Psychiatry* 2004; 185: 342-349.
- 11 Lifeline Australia [website]. <http://www.lifeline.org.au/> (accessed Mar 2007).
- 12 Kids Help Line Australia [website]. <http://www.kidshelp.com.au> (accessed Mar 2007).
- 13 Hickie I, Davenport TA, Naismith SL, et al. Treatment of common mental disorders in Australian general practice. *Med J Aust* 2001; 175 (2 Suppl): S25-S30.
- 14 Hickie I, Davenport TA, Scott EM, et al. Unmet need for recognition of common mental disorders in Australian general practice. *Med J Aust* 2001; 175 (2 Suppl): S18-S24.
- 15 Hickie I, Davenport T, Naismith S, Scott E, on behalf of the SPHERE National Secretariat. SPHERE: A National Depression Project. *Med J Aust* 2001; 175 (2 Suppl): S4-S5.
- 16 Hickie I, Davenport T, Scott E, et al. Development of a simple screening tool for common mental disorders in general practice. *Med J Aust* 2001; 175 (2 Suppl): S10-S17.
- 17 Wright A, Jorm AF, Harris MG, et al. Development and evaluation of a youth mental health community awareness campaign — the Compass Strategy. *BMC Public Health* 2006; 6: 215.
- 18 Hickie IB, Davenport TA, Ricci CS. Screening for depression in general practice and related medical settings. *Med J Aust* 2002; 177 (7 Suppl): S111-S116.
- 19 Gilbody S, Bower P, Fletcher J, et al. Collaborative care for depression. A cumulative meta-analysis and review of longer-term outcomes. *Arch Intern Med* 2006; 166: 2314-2321.
- 20 Fogarty A, Davenport T, Hickie I. Collaborative care in the management of depression: a review of reviews. *Early Interv Psychiatry*. In press.
- 21 Sawyer MG, Arney FM, Baghurst PA, et al. The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. *Aust N Z J Psychiatry* 2001; 35: 806-814.
- 22 Andrews G, Henderson S, Hall W. Prevalence, comorbidity, disability and service utilisation. Overview of the Australian National Mental Health Survey. *Br J Psychiatry* 2001; 178: 145-153.
- 23 Sanderson K, Andrews G, Corry J, et al. Reducing the burden of affective disorders: is evidence-based health care affordable? *J Affect Disord* 2003; 77: 109-125.
- 24 Andrews G, Issakidis C, Sanderson K, et al. Utilising survey data to inform public policy: a comparison of the cost-effectiveness of treatment of ten mental disorders. *Br J Psychiatry* 2004; 184: 526-533.
- 25 Mental Health Council of Australia. Not for Service: experiences of injustice and despair in mental health care in Australia. Canberra: MHCA, 2005. <http://www.mhca.org.au/notforservice/report/index.html> (accessed Jul 2007).
- 26 Hickie IB, Davenport TA, Naismith SL, Scott EM, on behalf of the SPHERE National Secretariat. Conclusions about the assessment and management of common mental disorders in Australian general practice. *Med J Aust* 2001; 175 (2 Suppl): S52-S55.
- 27 Hight NJ, Hickie IB, Davenport TA. Monitoring awareness of and attitudes to depression in Australia. *Med J Aust* 2002; 176 (10 Suppl): S63-S68.
- 28 Moynihan R, Smith R. Too much medicine? Almost certainly. *BMJ* 2002; 324: 859-860.

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- 29 Hight 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: 55-58.
- 30 Jorm AF, Christensen H, Griffiths KM. The public's ability to recognize mental disorders and their beliefs about treatment: changes in Australia over 8 years. *Aust N Z J Psychiatry* 2006; 40: 36-41.
- 31 Johannessen JO, Larsen TK, Friis S, et al. The TIPS study overview — strategies and main results [symposium]. *Acta Psychiatr Scand Suppl* 2006; 431: 28-29.
- 32 Pirkis J, Hickie IB, Young L, et al. An evaluation of *beyondblue*: Australia's national depression initiative. *Int J Mental Health Promot* 2005; 7(2): 35-53.
- 33 Hickie IB. Reducing the burden of depression: are we making progress in Australia? *Med J Aust* 2004; 181 (7 Suppl): S4-S5.
- 34 Hickie IB, Davenport TA, Luscombe GM. Mental health expenditure in Australia: time for affirmative action. *Aust N Z J Public Health* 2006; 30: 119-122.
- 35 Naismith SL, Hickie IB, Scott EM, Davenport TA. Effects of mental health training and clinical audit on general practitioners' management of common mental disorders. *Med J Aust* 2001; 175 (2 Suppl): S42-S47.
- 36 Hall WD, Mant A, Mitchell PB, et al. Association between antidepressant prescribing and suicide in Australia, 1991–2000: trend analysis. *BMJ* 2003; 326: 1008-1012.
- 37 Hickie I, Pirkis JE, Blashki GA, et al. General practitioners' response to depression and anxiety in the Australian community: a preliminary analysis. *Med J Aust* 2004; 181 (7 Suppl): S15-S20.
- 38 Hickie I, Davenport TA, Luscombe GM, et al. Is real reform of the Medicare Benefits Schedule for psychiatrists in Australia economically, socially or professionally desirable? *Australas Psychiatry* 2006; 14: 8-14.
- 39 Downer SR, Meara JG, Da Costa AC, Sethuraman K. SMS text messaging improves outpatient attendance. *Aust Health Rev* 2006; 30: 389-396.
- 40 Bushnell J, McLeod D, Dowell A, et al; The MaGPle Research Group. The treatment of common mental health problems in general practice. *Fam Pract* 2006; 23: 53-59.
- 41 Bushnell J, McLeod D, Dowell A, et al. The effectiveness of case-finding for mental health problems in primary care. *Br J Gen Pract* 2005; 55: 665-669.
- 42 Thompson C, Ostler K, Peveler RC, et al. Dimensional perspective on the recognition of depressive symptoms in primary care — The Hampshire Depression Project 3. *Br J Psychiatry* 2001; 179: 317-323.
- 43 Friedman R, Leon A. Expanding the black box — depression, antidepressants, and the risk of suicide. *N Engl J Med* 2007; 356: 2343-2346.

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