A STUDY OF AUSTRALIANS' ACCESS TO HEALTH SERVICES FOR COMMON MENTAL HEALTH PROBLEMS

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CONTENTS

STATEMENT OF CANDIDATE'S CONTRIBUTION TO THE RESEARCH

Research undertaken for this thesis was based on two data sets: the National Survey of Mental Health and Well-being, and information obtained from two age groups of respondents who participated in the first wave of the PATH Through Life Project being conducted by the Centre for Mental Health Research. The National Survey was conducted by the Australian Bureau of Statistics which produced a confidentialised unit record file on CD-ROM, able to be purchased by researchers under specified conditions of sale. The Centre for Mental Health Research purchased this file and made it available for the analyses undertaken for this thesis. The candidate assisted with a number of tasks during the administration of the PATH Through Life Project including the interviewing of 210 participants.

The candidate independently drafted all chapters of this thesis and revised them following review by supervisors, in particular by Professor Jorm who also provided direction and guidance at particular stages during the development and reporting of the research. Valuable comments on the structure of Chapters One, Two and Eight were provided by Dr Christensen. Dr Dear provided advice on a number of statistical matters. Professor Henderson, supervisor until 31 January 2001, gave useful feedback on earlier versions of Chapters Three, Four and Five when they were being prepared as manuscripts for submission to a peer-reviewed journal.

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List of Abbreviations

Abbreviation	Meaning
ABS	Australian Bureau of Statistics
BEACH	Bettering the Evaluation and Care of Health
CI	Confidence interval
CIDI	Composite International Diagnostic Interview
CIDI-SF	Short form of the Composite International Diagnostic Interview
CURF	Confidentialised Unit Record File
EPQ-R	Revised Eysenck Personality Questionnaire
GHQ	General Health Questionnaire
GP	General practitioner
HIC	Health Insurance Commission
HIV	Human immunodeficiency virus
ICD-10	International Classification of Disease – version 10
MCS-12	Mean score on the SF-12 mental health scale
PATH20	PATH Through Life survey of 20 to 24 year olds
PATH40	PATH Through Life survey of 40 to 44 year olds
PCS-12	Mean score on the SF-12 physical health scale
SD	Standard deviation
SEIFA	Index of relative socio-economic disadvantage
SF-12	12 item Short Form Health Survey
SPHERE	Somatic and Psychological Health Report

THESIS ABSTRACT

Governments in Australia aim to deliver health services that offer all citizens equity of access to mental health care on the basis of need. A range of factors can hinder governments in their attempt to achieve this objective. Individuals with mental health needs may not perceive that they have a health problem, that they should seek help for those problems, or that such help is best obtained from the health care system. Individuals who choose to seek help from the formal health care system may find that such health care is unavailable, that they cannot afford it, or that it is not provided in a culturally appropriate way. These factors, classified as personal and health-system related respectively, will impact on the extent to which Australians have equity of access to needed care for their health problems.

This thesis explored the extent to which personal, health-system, and need factors determined whether Australians obtained health services for their common mental health problems. It used the framework of the Andersen behavioural model to map personal and health-system factors to variables that might predispose or enable an individual to obtain mental health help, to obtain particular types of mental health assistance or to report unmet mental health needs. Analyses were undertaken on two data sets: the 1997 National Survey of Mental Health and Well-being and data from the PATH Through Life Project being conducted by the Centre for Mental Health Research, Canberra.

An important finding of these analyses was that Australians who received mental health help were primarily identified by their having mental health needs. Those with depressive symptoms or diagnosed as having an affective disorder were most likely to have obtained such help. However, of those with mental health needs,

individuals who obtained help for those problems were identified by various factors not related to their needs.

Compared with men, women were predisposed to seek more help for mental health problems and for health problems generally. This gender difference related primarily to general practitioner services and did not hold for services provided by specialist mental health practitioners or for respondents across all age groups.

Most health-system factors concerning the availability, affordability and cultural appropriateness of health care were found to have little impact on whether Australians obtained help for their common mental health problems. Mental health care provided by general practitioners was available to most Australians. Those living outside metropolitan areas, however, obtained fewer specialist mental health services. Individuals who had previously received mental health help were more likely to seek such assistance again whereas those who had previously had untreated mental health problems avoided seeking such help.

Australians whose mental health help was provided by psychiatrists were likely to have received a range of different types of mental health assistance. Consumers who obtained their care only from a general practitioner, however, were most often prescribed medication and least likely to have obtained psychological therapy, practical or self-care help. Overall, those who obtained mental health help wanted more psychological therapy and mental health information, while medication needs were least often reported as unmet.

VALUE OF THE FINDINGS

The findings of this thesis have filled important gaps in the information on Australians' access to mental health care on the basis of need. They confirm that, under our current health care system, Australians already enjoy reasonable equity of

access to needed mental health care. They also identify areas in which improvement in such access could still be achieved.

The findings of this thesis are set in the context of Australia's mental health policies and service delivery systems. Policy implications of these findings are explored and possible routes for improving Australians' access to mental health care on the basis of need are presented.

Chapter One:
Access to formal care on the basis of need

Chapter One Abstract

Governments aim to ensure that all Australians have equal access to formal health services on the basis of need. A number of factors can hinder governments in their attempts to achieve that objective. For the most part, provision of health care requires that the individual seek that care and there are various personal factors that can deter those who need formal health and mental health services from seeking such care. Other factors, products of the structure of the health system, may also impede individuals who seek formal mental health services from obtaining that care. In order to reduce the impact of such health-system and personal factors on access to health services, governments need analytical tools that allow them to measure the extent to which they are achieving such objectives. This chapter firstly considers the various issues that can arise when attempting to measure access to formal mental health care and the impact of health-system and personal factors on that access. It then introduces the primary hypotheses to be tested and the analytical tool to be used for that testing, in order to determine the extent to which Australians have equal access to formal mental health services on the basis of need. The chapter finishes with a brief consideration of issues that could arise when using the findings of such analyses to inform health policy.

Introduction

"Equity of access on the basis of need" is a phrase frequently used by governments in Australia and elsewhere to emphasise that their services are to be made equally accessible to all members of the population who demonstrate similar levels of need for such assistance (Aday and Andersen, 1974; Commonwealth Department of Health and Aged Care, 1999a; Goddard and Smith, 2001; Mooney, 1983; Waters, 2000). When a government applies this phrase to its health services, one can reasonably infer various details concerning the arrangements for providing those services. "Equity" indicates that the distribution and funding mechanisms through which such services are to be provided are selected with the aim of making services equally available to, and equally affordable and culturally relevant for, all potential consumers. When the term equity is applied to "access", provision of such services is neither automatic nor universal but dependent on each potential consumer making the choice to obtain those services (Mooney, 1983). Services that are to be provided "on the basis of need" are not to be made freely available to all seeking such help but confined to those who demonstrate that their needs for such care meet certain required levels. Services categorised in this way, then, are to be made available through arrangements that require potential recipients both to take the initiative in obtaining the service and to satisfy some objective assessment that such a service is needed.

Governments provide most formal health services in Australia with the aim that Australians needing those services shall have equal access to them. The term 'formal' is used here to distinguish those health care facilities, providers, and services that are funded or regulated in some measure by governments. Arrangements for some specific health services are different, being compulsory or strongly encouraged (for example, vaccinations for highly infectious, preventable

diseases). A few can also be imposed without the recipient's consent (for example, confinement to prevent harm to self or others). This thesis explores issues that relate to the substantial majority of health services; those that are provided in response to the consumer requesting such care and to the service provider assessing that such care is clinically needed. Specifically, this study seeks to answer the question: *to what extent can Australians be said to have equity of access to formal mental health services on the basis of need?*

Topics covered in the remainder of this chapter

This first chapter begins by exploring some definitional problems that arise from the wording of this government health care objective. It then examines factors that can affect an individual's access to formal health services including formal mental health services. The final section considers how one might attempt to measure level of access on the basis of need. It then identifies the primary hypotheses to be tested and the analytical tool that will be applied in this study to investigate those hypotheses.

Definitional issues: self-perceived or clinically-assessed need

Problems can arise when provision of health services requires the individual to seek care but also that such care is to be clinically-assessed as being needed. The individual's self-assessment of service needs may or may not accord with an expert or objective assessment of such need (Andersen, 1995). The mismatch between self-perception of need and clinically defined need can align in either direction. Some individuals will consider that they need more health services than those deemed to be clinically appropriate while others may not consider such care needed although they meet clinical criteria for such care. Such a mismatch can also occur for a single individual with different health problems. For one health problem, an individual may request services from the formal health care system but not meet expert assessment

of needing such care and, conversely, for a separate health problem, meet external criteria indicating care is needed but not seek such services.

For a range of health problems, it is difficult to describe a clearly differentiated illness stage at which formal services are clinically needed, and prior to which, such need does not exist. Medical assessment of need for intervention is usually based on such factors as the number of symptoms present, the distress experienced by the individual presenting with these symptoms, the potential for those symptoms to indicate a severe or life-threatening condition, and the availability of medical care that can arrest progress of such an illness (Kendrick, 2000). Clinical assessment of need becomes graded: this person with this cluster of symptoms and signs has a greater need for medical care compared with that person who exhibits fewer such symptoms or whose symptoms, although distressing, are not expected to develop into a major health problem. In these circumstances, it would only be realistic to expect that the individual's self-assessment of need for health care frequently does not correspond with clinical assessment of that need. Further, both self-perception of need and medically assessed need are fluid concepts which change as health services develop and improve, as governments adjust their policies on the provision of health services, and as community expectations of health and knowledge of health care services change (Andersen, 1995). The potential for mismatch, then, as these two concepts fluctuate separately over time is considerable.

Governments aiming to spend their limited health care budgets more effectively, in order to improve the overall health of the population, will take action to correct either type of imbalance. Such actions can include the public provision of health information that assists individuals to identify symptoms that may be early indications of preventable, chronic diseases, such as diabetes, hypertension. Such information can also better inform consumers about health problems that probably

do not need treatment from the formal health care system, for example, upper respiratory tract infections and influenza. Where consumers seek expensive care that health policy makers deem to be not medically needed, the Australian government may choose to limit or refuse funding; for example, not reimbursing through Medicare procedures such as cosmetic surgery (Commonwealth Department of Health and Aged Care, 1999b). It also makes efforts to educate health care providers about appropriate treatments for particular symptoms or conditions; for example, discouraging prescription of antibiotics for influenza (Butler et al, 1998; Commonwealth Department of Health and Aged Care, 1999b).

Alternatively, consumers with treatable health problems may not seek any care from the formal health care system, although such health care could improve their health. In response to such unmet health care needs, government actions and resources are generally directed at addressing problems of accessibility of those services; that is, ensuring they are available to, and affordable for, those who have such needs (see, for example, Commonwealth Department of Health and Aged Care, 1999c; National Rural Health Policy Forum, 1999). Of course, the success of such strategies in addressing unmet health care needs must also depend on the concordance between potential recipients' self-perceived needs for services for particular health problems and the clinically-assessed need for such help.

The route to formal health care

It has been hypothesised that there is a sequence of steps to be undertaken before an individual with a health problem chooses to obtain help from the formal health care system (Dean, 1981; Mechanic, 1972). These steps proceed from recognising there is a problem to appreciating the health-relatedness of that problem, to deciding to take action to treat it, to seeking treatment for it from the formal health care system and finally to obtaining such treatment. Those who are not aware

of, or choose to ignore, their health problems, those who choose to self-treat such problems or obtain help from outside the formal health care system (for instance, from a naturopath), as well as those unable to access appropriate formal health services, will not obtain formal health care for the problem in question.

Various researchers have attempted to identify the sociodemographic, psychological and sociological factors that help or hinder the individual with a health problem from moving along the pathway to formal health care. In this study, these factors have been collected into two broad groups: health system-factors and personal factors (see Figure 1). The summary of these factors provided in the following sections draws on a review and synthesis of the relevant literature.

Figure 1: Factors affecting the individual's progression to formal health care

(i) Health-system related factors:

Availability of services
Affordability of services
Cultural appropriateness of services

(ii) Personal factors:

Self-identification of unwellness affected by:-
- *health expectations*
- *health knowledge*
- *health awareness*

Propensity to adopt the illness role
Help-seeking behaviours

Health-system factors that affect progression to formal health care

This group of factors comprises those aspects of the formal health system that affect the availability, affordability and cultural appropriateness of services. These include the geographic distribution of services, the availability of different levels of health care and the financial outlay required of the consumer receiving

those services (Andersen and Newman, 1973; Commonwealth Department of Health and Aged Care, 1999c; Hulka and Wheat, 1985). These factors play a role in affecting health service utilisation in the health system of any country. The type and extent of that effect, however, will depend on the structure of the health system being considered; whether it is almost totally publicly funded and operated (for example, the United Kingdom's National Health Service), mostly privately funded and operated (as in United States of America) or somewhere between these two extremes (Australia and Canada). The following exploration of these issues relates to the Australian health care system.

Availability of services

Achieving a satisfactory geographical distribution of health services in Australia continues to be a challenge for both levels of government (Commonwealth and State or Territory) that are responsible for providing health care services. The availability of health services in rural and remote areas, particularly those provided by general and specialist medical practitioners, has been recognised as an equity of access issue for a considerable time (Commonwealth Department of Health and Aged Care, 2000a; Humphreys and Rolley, 1993; 1998; National Rural Health Policy Forum, 1999; Wilkinson, 2000). Compared with Australians living in well-populated areas, those in rural and remote locations have more difficulty accessing general practitioners, medical specialists and hospital care (National Rural Health Policy Forum, 1999). Similar problems have also been reported in some lower socio-economic status or outer location suburbs of metropolitan areas (Baume, 1994). Allied health practitioners either occupy salaried positions or practise privately. Their choice of location is determined either by their employment arrangements or by market forces. For some allied health practitioners who take predominantly salaried positions, for example, nurses, this has resulted in their

having a reasonable geographical distribution throughout the country. Others who work primarily in private practice (for example, physiotherapists, optometrists) are rarely found outside large centres of population (Australian Institute of Health and Welfare, 2000).

Affordability of services

All Australian residents have access to medical care provided by general and specialist medical practitioners under the Medicare health insurance system funded through the taxation system. A small number of allied health services such as eye tests by optometrists are also covered by this insurance scheme. Those obtaining such services may be 'bulk-billed', with the total cost charged directly to Medicare, or they may be required to make a personal 'co-payment' in addition to the Medicare component of the fee charged. Fees for medical services are set by individual practitioners and the consumer's net outlay can range from nothing (for bulk-billed items) to substantial sums for particular specialist services (Commonwealth Department of Health and Aged Care, 2000b). Since availability of practitioners and competition between practitioners influence the fees charged, the majority of general practitioners in well-serviced metropolitan areas bulk-bill all services (Australian Medical Workforce Advisory Committee and Australian Institute of Health and Welfare, 1998). All Australians also have access to services in public hospitals. While these services are provided free of charge, waiting times for this type of health care are often lengthy (Commonwealth Department of Health and Aged Care, 2000b). Most pharmaceutical products are provided to Australians at a capped price. A safety net set by government limits the total amount spent annually by a household on pharmaceutical products (Commonwealth Department of Health and Aged Care, 2000b). Health care not covered by Medicare arrangements, for example, dental, physiotherapy and podiatry services, are

provided principally by private practitioners and funded totally by the consumer, although those with private health insurance for ancillary services may have such costs partially reimbursed.

Cultural appropriateness of services

Most of the health services provided through Australia's health care system are based on Western views of health, illness and health care delivery mechanisms. Such services may not correspond with the types of health services sought by those from the many other cultures who now live in Australia, nor the services sought by the indigenous population (Commonwealth Department of Health and Aged Care, 2000a). When the individual seeking health care from a typical Australian health clinic also brings culturally-based, non-Western understandings of health and of ill-health, there is considerable likelihood that any treatment provided will be inappropriately and therefore ineffectively used, if not ignored. The concept of 'cultural safety' was first developed when describing problems experienced by the Maori population in New Zealand as a result of differences between their culture and the dominant Western culture of New Zealand (Williams, 1999). Services provided in a culturally safe environment will not assault, challenge or deny the culturally-based knowledge, experiences and obligations of those seeking health care. Similarly, relatively few service providers are conversant in languages other than English and those without fluency in this language may be discouraged from seeking help, or have difficulty comprehending advice that is provided (Barrio, 2000). Again, such problems reduce the likelihood of health care being provided effectively or at all to those in need of such care (Stuart et al, 1996).

This section has explored health-system factors that influence the individual's ability to obtain help. Other factors at the personal level will affect

whether individuals make the decision to seek help from the formal health care system. These are now discussed.

Personal factors that affect the progression to formal health care

Personal factors cover the psychological and interpersonal factors that prompt an individual experiencing physical or psychological changes to self-identify as being ill, and, as a result, make the decision to seek help for that problem. There are three categories of factors within this group: those influencing (i) the self-assessment of being unwell; (ii) the propensity to adopt the illness role; and (iii) help-seeking behaviours. These three groups of factors are linked but separate, since those who self-identify as being unwell do not adopt an illness role until they change their behaviour in some way or inform others that this is the case. Such communication of an illness state can be made without necessarily seeking help to relieve that problem, whether it be self-provided, provided informally from others or from the formal health care system.

Self-identification of unwellness

Self-identifying as being unwell can be viewed as a product of three different elements: the health expectations, health knowledge and health awareness of the individual. Each of us has particular health expectations; that is, we carry a self-concept of what we experience and feel when we are in 'good health' and, similarly, our experiences and feelings when we are not in 'good health' (Bernheim, 1999). However, the comparability of this term when used by different individuals even within the same culture and time period is highly questionable. Most individuals do not expect to be in a state of perfect health at all times. Amongst individuals, however, there is considerable variation in health expectations that determine the disparity between that hypothetical state of perfect health and the level of health that

prompts the self-assessment of 'being unwell' (Barsky et al, 2001; Schroll et al, 1991).

Health knowledge and health awareness are related. Health awareness refers to the extent to which an individual appreciates changes in physical and psychological experiences while health knowledge will allow that individual to then assign an accurate health-relevance value to those experiences (Fenigstein et al, 1975; Mechanic, 1975). Excessive health awareness or health anxiety occurs when the individual gives excessive attention and negative value to such experiences (Hadjistavropoulos et al, 1998; Hollifield et al, 1999; Speckens et al, 1996). An individual's levels of both health knowledge and health awareness as well as the priority given these factors will be the result of a range of life experiences, including the health knowledge and health awareness demonstrated by significant others (Campbell, 1975; Idler, 1979; Kirscht et al, 1976).

Certain factors can moderate an individual's propensity to self-identify as being ill. It is well recognised that those with chronic illnesses adapt their self-perceptions of health and future health expectations to accommodate their condition (Groot, 2000; Sidell, 1997). In contrast with reports describing health anxiety, Heckhausen and Brim (1997) found that respondents of all age groups in a large cross-national sample of adults had a propensity to downgrade their own problems, including their health problems, relative to their perceptions of the problems experienced by others.

Finally, other factors can influence the timing of an individual's self-identifying as being unwell. Such self-identification may be stifled or encouraged by the particular social setting or experience. Injury obtained in particular settings (for example, playing a contact sport) may be ignored, while an ongoing low-grade physical discomfort may first be acknowledged by an individual as a result of

experiencing an unrelated but stressful personal incident (Fedder et al, 2001; Manderbacka, 1998).

Propensity to adopt the illness role

Parsons (1951) first used the term 'sick role' to describe the role and interaction expectations of the ill person and relevant professional and non-professional role-partners, a construct argued by Idler (1979) as unnecessarily medicalising illness behaviour. In the following discussion, the term 'illness role' is used to describe the social actions and transactions that an individual carries out which allow others to identify that individual as being ill. Such transactions can include modifying aspects of one's behaviour, communicating to others that one is ill and forgoing work or family obligations or recreational or social activities by reason of being ill.

In general, how we present information to significant others depends on the relevant social interaction rules, the personalities of both parties, as well as the setting and purpose of interaction (Snyder and Stukas, 1999). Similarly, there are various factors that have been found to affect whether, how and when the individual who feels unwell decides to adopt the illness role. These include: the meaning attributed to the symptoms by the individual (Alonzo, 1979; Mechanic, 1972), the desirability of adopting the role or whether such behaviour might be assessed as 'giving in' (Alberts et al, 1998; Murray and Corney, 1990), and whether this is the appropriate setting in which to adopt such a role (Alonzo, 1979; 1985; Berkanovic, 1972; Pescosolido and Kronenfeld, 1995).

Perspectives on the appropriateness, usefulness or acceptability of taking up the illness role are acquired and modified by individuals through their life experiences and are likely to vary between cultures (Snyder and Stukas, 1999; Wiseman, 1999). Those perspectives will be affected by a range of factors including:

the actual and perceived reactions and expectations of significant others; the expectation that such reactions and expectations will proffer benefits; the type, severity and duration of the health problem; and the age of the individual. Hence, a young child with a gravel-rashed knee is likely to take on a conspicuous, if temporary, illness role and be offered sympathetic reactions and other illness role benefits by others. An older child or adult with a comparable injury, however, would generally be expected not to display significant illness role behaviour but, instead, to ignore any resulting discomfort and continue with activities that preceded the mishap (Fearon et al, 1996). Individuals with chronic diseases are usually expected to reduce the level and extent of their illness role as their period of illness continues or reoccurs (Bury, 1982; Campbell, 1975; Honig-Parnass, 1981; Paterson, 2001; Segall, 1976). The preparedness of individuals to adopt the illness role, then, can indicate the extent to which people within their community accept and include information about that particular illness, its causes, treatments and progress during their normal social discourse (Alonzo, 1985).

Help-seeking behaviours

'Help-seeking' refers to those actions undertaken by the individual who seeks to alleviate or eliminate a health problem. Such help is available from various sources. An individual may seek help from health professionals operating in the formal health care system, from other health practitioners external to this system (for example, those providing alternative health care), from lay people or may self-treat the problem.

It has been consistently found that most treatment of health problems is self-provided and that self-treatment usually precedes, rather than replaces, care from health practitioners (Fleming et al, 1984; Habeeb and Gearhart, 1993; Levin and Idler, 1983). Factors found to be associated with higher levels of using formal health

services include level of efficacy of self-care, level of lay access to technical knowledge (Levin and Idler, 1983; Van de Kar et al, 1992) and uncertainty or fear about the meaning of symptoms (Andersen et al, 1977; Neal et al, 2000). Individuals with personal as well as health problems, those subjected to stressful events (not necessarily health-related) and those with lower levels of psychosocial support have also been reported as being more likely to seek this type of help (Fabbri et al, 2001; Gill and Sharpe, 1999; Levin and Idler, 1983; Pini et al 1995; Segall and Goldstein, 1989; Zola, 1973). In addition, those who had previous satisfactory experience of obtaining help or knew of others who had reported such satisfaction have been found to be more likely to use formal health services (Berkanovic et al, 1981; Lehtinen and Vaisanen, 1978). Factors associated with lower levels of formal health care utilisation include dissatisfaction with services previously obtained, disagreement with the type or level of health care provided (Ludwig and Gibson, 1969; Murray and Corney, 1990) or having a greater need for a sense of control over the illness process (Northrup, 1993).

Is the route to formal mental health care different?

The preceding section considered the factors that encourage or assist individuals to use formal health care generally. This section explores the relevance and role of these factors in encouraging or discouraging individuals from obtaining such care specifically for mental health problems. This exploration of equity of access to formal mental health care focuses primarily on the more common mental disorders: depression, anxiety and substance abuse. Those experiencing episodes of psychosis or who are suicidal are less likely to be given a choice about their use of formal health care services. The discussion concentrates on those in the first group who have less severe mental health problems and investigates the health-system and

personal factors that might help or hinder such individuals along the path to formal services for their mental health problems.

Health-system factors affecting progression to formal mental health care

Availability of services

The geographic availability of formal mental health services provided by general practitioners or psychiatrists is an ongoing issue for governments (Australian Institute of Health and Welfare, 2000; Jorm et al, 1993; Judd and Humphreys, 2001; National Mental Health Strategy Evaluation Steering Committee, 1997). There are also concerns that general practitioners may often not recognise symptoms of mental health problems reported by their patients (Clearihan, 1999; Ellen et al, 1998; Royal Australian College of General Practitioners, 1998). Privately practising allied health practitioners, including psychologists or counsellors, are unlikely to be found outside major population centres although their colleagues who work in publicly funded positions may be based in smaller communities.

Affordability of services

Fees charged for general practitioner and psychiatrist services will be covered, partly or totally, by the Medicare health insurance scheme while those obtaining mental health services through community health centres will usually receive them free-of-charge. Services provided by privately practising counsellors and psychologists will be charged fully to the consumer and can represent a substantial financial outlay, with possibly some rebate for those privately insured.

Cultural appropriateness of services

The cultural appropriateness of mental health services is recognised as a concern for governments. Those from different cultures have been found to have significant differences in their attitudes towards mental illness and their understanding of mental health services (Hsu, 1999). Similarly, Australians whose

usual language is not English may have trouble understanding and complying with treatment that is provided for their mental health problems (Chan and Quine, 1997; Minas et al, 1994; Steffensen and Colker, 1982; Stuart et al, 1996). Both indigenous Australians and those from non-English speaking backgrounds have been identified as having special mental health service needs that are yet to be met (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 1999; Mitchell et al, 1998; National Mental Health Strategy Evaluation Steering Committee, 1997).

Personal factors affecting the progression to formal mental health care

Whereas health system factors affecting access to formal mental health care and other health services are largely comparable, there is less correspondence between the personal factors that affect individuals' decisions to seek formal health care generally and those that affect their decisions to seek help for mental health problems.

Self-identifying as having a mental health problem

Most people acknowledge the experience of physical pain as a possible indication of ill health (Aldrich and Eccleston, 2000). Those experiencing such pain usually monitor that experience over a period of time before deciding whether or not to ignore it for the time being, to self-treat it, for example, by taking over-the-counter medication or to seek treatment from a health practitioner. The circumstances of recognising symptoms of mental ill health are somewhat different. We all expect to have periods of sadness and anxiety during our lives and, indeed, could question our functioning as human beings were we not to do so. The individual experiencing symptoms of physical distress, particularly unexplained pain, is likely to register that these symptoms indicate some level of ill-health that may or may not need treatment. The individual with symptoms of mental disorder,

however, is more likely to attribute these to life experiences or general predisposition without considering the possibility that such feelings might be symptoms of mental disorder that might warrant formal health care (Angermeyer and Matschinger, 1996; Arean and Alvidrez, 2001; Jorm et al, 2000; Mechanic, 1975; Pill et al, 2001; Yokopenic et al, 1983). Similarly, those with particular mental health problems often disregard, or underrate the severity of, their problems (Estroff et al, 1991; May and Foxcroft, 1995; Wiseman, 1999). Receiving a formal diagnosis may render the individual more aware of particular symptoms and, possibly, accepting that such symptoms may be illness-related (Bucholz and Robins, 1987; Lehtinen and Vaisanen, 1978; Robbins, 1981).

An individual's knowledge and awareness of mental health problems are formed and modified in part through the reactions of significant others to such problems (Pescosolido and Kronenfield, 1995). The reactions of such people to an individual who has a visible physical injury will often be quite different to the responses given to another who is overly anxious. In the latter case such symptoms are often criticised but also normalised as being part of that individual's personality and assumed to be unchangeable (Whitt and Meile, 1985).

Propensity to adopt the illness role

Overall, those with mental and non-mental health problems take very different positions on divulging, through their communication and action, information about their illness to others. Both the stigma and expectations of rejection that are associated with presenting oneself to others as having a mental disorder are widely recognised (Link, 1982; Rosen et al, 2000; Stefl and Prosperi, 1985; Trute et al, 1989). While it has been argued that this stigma is neither valid nor productive (Clausen, 1981), its effect on individuals' propensity to identify themselves to others as having mental health problems is significant. Individuals

may choose to acknowledge but not label their symptoms (Meile, 1986) or to somatise such symptoms (Allen et al, 2001; Goldberg and Bridges, 1988; Robinson and Roter, 1999), options which may allow them to adopt the illness role without risking any accompanying stigma. Those who self-identify as having a mental disorder often adopt strategies of secrecy or withdrawal in order to conceal this information from others (Link et al, 1991). When most individuals with mental disorders feel uneasy about adopting the illness role, this can generate a self-perpetuating problem where the lack of visibility of those with such problems reduces likelihood of social recognition which amplifies the preference for concealing such information and so on (Link, 1987).

Finally, as is the case with other chronic illnesses, any illness role conceded to those who have repeated occurrences of a mental disorder often dissipates over time with the expectation that such individuals will continue with their normal functions and responsibilities during those episodes (Segall, 1976; Trute et al, 1989).

Help-seeking behaviours

It was noted in the previous discussion on help-seeking that help from the formal health care system is sought for only a small proportion of illness experiences. This is also the case with mental disorders, with estimates being that about one third of those with mental health problems seek formal help to alleviate their distress (Bebbington et al, 2000b; Dew et al, 1991). Factors associated with increased likelihood of using formal health services for mental health problems are similar to those linked to using formal services for other health problems. These include previous satisfactory experience of formal mental health care (Bayer and Peay, 1997; Bucholz and Robins, 1987; Marino et al, 1995), wider social networks (Greenley et al, 1987; Horwitz, 1977; Pescosolido et al, 1998; Rogler and Cortes, 1993), lower levels of psychosocial support (Briones et al, 1990; Dew et al, 1988),

and feelings of distress (Galbaud du Fort et al, 1999; Zola, 1973). Others use mental health services not to alleviate specific mental health problems but to achieve greater self-fulfilment (Hourani and Khlat, 1986; Klerman, 1985).

Factors deterring individuals from seeking formal mental health help include their holding the view that such conditions are not medically based and do not warrant medical treatment (Angermeyer and Matschinger, 1996), feeling that such disclosure to their general practitioner would be too embarrassing (Cape and McCulloch, 1999), and having concerns that such action would, in itself, be stigmatising (Link et al, 1997; Stefl and Prosperi, 1985).

Options for governments to clear the path to formal health care

Governments recognise that the choice to use most formal health services, including those for mental health problems, rests ultimately with the individual. Considerable resources are allocated to ensure that the option not to use formal health services is not foisted upon individuals by virtue of there being no such services available to, affordable for, or culturally appropriate for them (Commonwealth Department of Health and Aged Care, 1999c; 2000a; Doyle, 1993).

There is also a range of actions that governments take in efforts to ensure that the individual's decision to seek help for health problems is based on realistic health expectations, reasonable health knowledge and health awareness, and that such choice is not influenced by perceptions that particular health problems or health care will generate prejudice or ill-will from others (Commonwealth Department of Health and Aged Care, 2000a). Governments have also funded training to improve health practitioners' recognition of potential health problems (Royal Australian College of General Practitioners, 1998).

This range of actions and initiatives raises the question: *how do governments know when initiatives such as those described above are working?* This prompts a

more fundamental question: *how is access to formal health care measured? How can governments determine when the population's access to formal health care has become more or less equitable or when particular sub-populations do not have equal access?* The following section that completes this chapter raises some of the practical issues of how such questions might be answered.

Measuring access on the basis of need and the personal and health system factors that affect it

Governments developing initiatives with the goal of improving needs-based equity of access to health care need sound evaluation strategies that will allow them to measure the effectiveness of those initiatives. The health policy concept of **access to formal mental health care on the basis of need** must be quantifiable if questions concerning equity of that access across different groups of the population are to be answered. This section briefly considers how medically assessed need might be defined and how researchers have previously quantified health system and personal factors. It then explores how access to formal mental health care on the basis of need might be measured and identifies an analytical tool that could assist with that assessment. Finally, it raises some issues to be considered if the findings of such analyses are to be used to inform health policy.

Measuring need

It was noted earlier in this chapter that an individual's self-identified need and medically assessed need for care may be quite different. As a result, there may well be problems in achieving a health policy objective of **access on the basis of medically assessed need** when that access relates to health services that are generally obtained by individuals after they have **self-identified** as needing such care. Is medically assessed need for mental health services to be confined to those meeting requirements for a clinical diagnosis of mental disorder? Various writers

have argued that this should not be the case (for example, Magruder and Calderone, 2000; Preisig et al, 2001; Sherbourne et al, 1994). Medically assessed need for mental health care is likely to exist not only in cases of clinical diagnosis of mental disorder but also when there are other less rigorous indications of there being mental health problems including the presence of symptoms and some level of distress (Magruder and Calderone, 2000; Sherbourne et al, 1994). Formal medical treatment in the absence of a clinical diagnosis may be warranted when prevention is possible, when early clinical intervention is recommended or when that treatment can lessen the impact of the symptoms presented (Lewinsohn et al, 2000; Sadek and Bona, 2000). A range of variables that might be used to measure medically assessed need, defined in this way, is considered in Chapter Two.

Measuring the impact of health system and personal factors

Three health-system related factors, availability, affordability and cultural appropriateness of services, were earlier identified as having the potential to affect an individual's access to formal health care. Researchers who have previously assessed the impact of these factors have used quantifiable variables, usually collected at the level of the individual, to estimate the effect of these health system factors on each individual's use of formal health care. In Australia, it is usually assumed that availability of services is primarily affected by, and therefore can be measured using, the geographic location of the individual (classified, for example, as metropolitan, rural or remote). Similarly, affordability of services is usually assessed using measures or indicators of the individual's total or disposable income; and cultural appropriateness of services assessed using the individual's self-assessed cultural identify and usual language spoken at home (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 2000). The

measurement of these factors is also discussed in more detail in the following chapter.

In contrast, measuring the three groups of personal factors that can affect an individual's access to formal health care presents more problems. There are few parameters that could give reliable and valid estimates of preparedness to self-identify as being unwell, propensity to adopt the illness role, and help-seeking behaviour. Some scales quantifying the individual's health awareness have been developed and tested, for example, the Whitely Index, the Illness Attitudes Scale, and the Somatosensory Amplification Scale (Speckens et al, 1996; Stewart and Watt, 2000). Such tools, however, have had limited application and do not attempt to measure personal factors other than health awareness. Instead, researchers have generally used proxy measures for personal factors (for example, self-rated health as a measure of health awareness [Schroll et al, 1991], or health service use as a measure of help-seeking behaviour [Greenley and Mechanic, 1976; Kessler et al, 1981]) and have then identified sociodemographic variables associated with these proxy measures. Health care utilisation, however, is the end product of both health awareness and help-seeking behaviour, and, as might be expected, similar sociodemographic factors have been found to be associated with both proxy measures. Women have greater health awareness (Benyamini et al, 2000; Schroll et al, 1991), and, when compared with men with similar levels of need, are also more likely to have sought help (Greenley and Mechanic, 1976; Kessler et al, 1981; Leaf and Bruce, 1987; Rhodes et al, 2002). Similar findings hold for those with higher levels of education (Hourani and Khlat, 1986). Problems that may arise when using these proxy measures are considered at the end of this chapter.

Measuring access to formal mental health services

Australians will have equal access to needs-based mental health care when those with similar levels of medically assessed need are equally able to obtain formal mental health services. A more ambitious definition might require that those with similar levels of medically assessed need be able to obtain services that meet their needs to a comparable degree.

How is needs-based access to be measured?

Health care utilisation can be used as a measure of health care access - those using services are said to have **realised** their access (Aday and Andersen, 1974). Access **on the basis of need**, however, is a more complex measure. It cannot be estimated using only information on those who obtain formal health services unless those needing services and those obtaining services are one and the same group of the population. There will be overlap but not total correspondence between these two groups. Information on both groups - those needing formal care and those who obtain such care - is required if access on the basis of need is to be assessed. There are various means by which that assessment might be made. If it is assumed that, at any given time, not all of those in need will have been able to obtain formal health care, access can be measured by answering the question: *What percentage of those needing formal mental health services have obtained those services?* If it is also assumed that some services will be provided to those who request such help but who do not have a medically assessed need for such care, the question becomes: *what percentage of those obtaining formal mental health care have a medically assessed need for such care?* In view of the range of health-system and personal factors that might affect an individual's obtaining formal mental health services, this last question can be refined as follows: *To what extent does medically assessed need determine who obtains formal mental health services and to what extent do other,*

non-need related, personal and health system factors determine who obtains such care?

This question leads to the primary hypothesis to be tested in this thesis, namely:

- **In Australia, only needs-based factors are associated with individuals obtaining formal mental health services. After controlling for need, no personal or health-system factors will be found to be associated with obtaining mental health care.**

The Andersen behavioural model

The final form of this question recalls the basis of the behavioural model of health service utilisation developed by Andersen and Newman in 1973. Andersen and Newman (1973) proposed that three groups of predictor variables affect whether an individual obtains formal health services. These 'predisposing', 'enabling' and 'need' variables have reasonable correspondence with the various sociodemographic attributes and measures of need that have been used to estimate personal, health system and need factors respectively (Andersen and Newman, 1973). For example, Andersen and Newman identified females as more predisposed to use formal health services while they considered that having a higher level of income or living in a metropolitan area enables individuals to obtain more services. Rephrased to fit the Andersen model, the question now becomes: *What are the relative contributions of need, predisposing and enabling factors in determining whether Australians obtain formal mental health care?* Other measures of health service provision can be explored in the same way. *What are the relative contributions of predisposing, enabling and need factors in determining whether Australians obtain formal mental health care from general practitioners? from psychiatrists? from psychologists? What are the relative contributions of predisposing, enabling and need factors in*

determining whether Australians have their formal mental health care needs met. Table 1 provides a list of these questions that form the bases for the hypotheses that are explored in the analytical chapters of this thesis.

Table 1: Hypotheses to be examined in this thesis

In Australia, only needs-based factors, not health-system or personal factors, are associated with:	**Chapter**
(1) individuals obtaining formal mental health care; **individuals obtaining formal mental health care from:** **(1a) - general practitioners** **(1b) - psychiatrists** **(1c) - psychologists** **(1d) - other health practitioners.**	**3**
(2) the types of assistance individuals receive when they obtain formal mental health care.	**4**
(3) consumers of mental health help reporting that their needs for particular forms of mental health assistance are unmet or only partially met.	**5**
(4) utilisation of general practitioner services by young adults.	**6**
(5) adults with suicidal ideation using formal health services to alleviate their depressive symptoms.	**7**

Numerous writers have previously used the Andersen model to explore issues of equity of access to health services for particular subgroups of the population as well as for those with particular health problems (for example, Berkanovic et al, 1991; Broyles et al, 2000; de Boer et al, 1997; Stein et al, 2000; Wolinsky, 1978). Others have used this model in their analyses of utilisation of mental health services (Badger et al, 2000; Leaf et al, 1988; Padgett et al, 1994a; Vera et al, 1998). To date, however, this model has not been used as the basis for exploring issues concerning equity of access to formal mental health care in the Australian setting.

The next chapter considers the data required if analysis of health care access using the Andersen model is to be undertaken. These data need to include measures of access to formal mental health care and of need for that care, as well as predisposing and enabling variables that could indicate the extent to which personal and health system factors affect the individual's access to mental health care. Two data sets that meet these requirements were available for the analysis for this study and these are then described.

Using the Andersen model to inform mental health policy

There is a final issue to consider in this chapter. From the health policy perspective, the findings of any analyses, including those based on the Andersen model, while they may be of interest, will only be of value if they can inform the development of mental health policy. The question answered by an Andersen-based analysis concerns the relative contributions of need, predisposing and enabling factors in determining which Australians obtain formal mental health care. Governments seeking to improve equity of access need answers to more specific questions: *Which predisposing and enabling factors are associated with individuals obtaining fewer services than they needed? more services than were needed? What types of interventions or policy changes could be introduced to reduce the impact of these non-need related factors in determining whether individuals obtain formal mental health services?*

It may be a straightforward matter to identify the health policy implications of findings concerning enabling factors, given that each of these factors such as geographical location, level of income or cultural background, accords with particular attributes of the health care system. If Australians in rural and remote areas obtain fewer formal mental health services than their counterparts with similar needs in metropolitan areas, it is likely that this disparity is at least partly the result

of there being fewer health practitioners in those areas. In the first instance, governments need to develop programs that will encourage more health practitioners to deliver mental health services to those in rural areas.

The types of policy changes needed to address the impact of predisposing factors on equity of access are often less clear. If, for example, women are predisposed to use more services than men relative to their needs, what specific factors might governments want to examine? Is this difference in patterns of health service utilisation the result of men and women having different levels of health awareness, different types of help-seeking behaviours or combinations of these and other factors? Different interventions will be needed to address each problem.

Some of the policy implications that could flow from the interpretation of the analyses reported in this study are considered in the final chapter of this thesis.

Chapter Two:
Measuring access on the basis of need

Chapter Two Abstract

Although governments aim to ensure that Australians have equal access to health care on the basis of need, data that could be used to measure equity of access are often not available. A range of data items, including sociodemographic and mental health related information, is required if needs-based access to formal mental health care is to be measured using the Andersen behavioural model. Such data should be collected at the level of the individual and obtained for a representative sample of Australians, not only for those who have used formal health services.

Two data sets that satisfy these requirements were made available for analyses for this thesis. The National Survey of Mental Health and Well-being provided a wide range of information on a representative sample of 10,641 Australian adults. The information collected from each participant included sociodemographic and psychological measures, use of health services for mental health reasons, types of assistance provided during those services, and unmet need for mental health help. Data from two surveys of adults living in the Canberra region, conducted as part of the PATH Through Life Project, were also available. This chapter describes items in both of these data sets that could be used to assess the need, predisposing and enabling factors associated with use of, and unmet need for, mental health services. The chapter finishes with a summary of the direction and content of the remaining chapters of this thesis.

Introduction

Although governments that provide health services aim to ensure that there is equity of access to such services on the basis of need, reliable measures that cover the various components of such access and that can be quantified and measured routinely, have yet to be devised (Mooney et al, 1991). Those examining issues of access are often restricted to using partial, inadequate indicators of this concept (Donaldson and Gerard, 1991). Information on those who use, that is realise their access to, formal health services may be routinely recorded and relatively easy to obtain. However, data that could be analysed using the Andersen behavioural model to determine the extent to which those who need health services obtain such care will require information about a different population. Those in need will include some who may have had no contact with the formal health care system. Demographic data and health-related information on this sector of the population are needed in order to quantify their health care needs and the personal and health system factors that might have affected their willingness or ability to access formal health service. Such data are rarely available.

The first part of this chapter considers in more detail the data required if the Andersen behavioural model is to be used to determine the extent to which Australians have equal access to formal mental health services on the basis of need. It then describes two data sets that meet these requirements and were available for analysis for this study. Finally, it presents a summary of the direction and content of the remaining chapters of this thesis.

Data required

At a broad level, there are three components that can usefully describe a data collection: the method of selection of units to the data set; the sampling unit, that is the smallest unit from which data are collected; and the particular items of

information obtained from each unit. This section considers the requirements for these components of the data used to measure access to formal mental health care on the basis of need.

Method of selection

In Australia as elsewhere, there are various comprehensive, well-maintained data sources that can provide information on the sociodemographic attributes and health status of those who have obtained formal health services. The selection mechanism for individuals to be included in such data sets is that they have used health services and that a record of such utilisation has been made. Assessments of equity in a health care system have often been based on analyses of the sociodemographic characteristics and health status of those who obtain formal services (Wagstaff et al, 1991a; 1991b; Mooney et al, 1991). Such analyses assume that equity of a health care system can be measured in terms of health care utilisation.

In order to reach conclusions about equity of access to formal mental health care on the basis of need, information needs to be drawn from a wider sector of the population. Most health services used in Australia are the result of consumer-initiated requests for such help. The individual obtaining formal mental health care has had to self-identify as having a mental health problem; recognise, or at least hope, that help for this problem is available from the formal health care system; choose to seek formal health services for the problem; and finally be able to obtain such care. This progressive selection to obtaining formal mental health services is given in Figure 2a.

As discussed in the previous chapter, there are various reasons why individuals who self-identify as having a mental health problem may avoid seeking, or fail to obtain, formal care that could alleviate that problem. Such reasons could

include: not knowing that such help is available, being unable to obtain it locally, finding that it is unaffordable, preferring to obtain care outside the formal health care system or to self-treat the problem. Those obtaining formal services will comprise only a sub-set of those who self-identify as having a mental health problem.

Further, it is highly unlikely that there would be total correspondence between those self-identifying as needing formal health care and those clinically-assessed as needing for such care, recognising that the latter group will include some with subthreshold forms of mental disorder as well as those with clinically diagnosed mental disorder. Individuals with mental health problems may not consider that such problems warrant their seeking help from the formal health care system, nor, indeed, that their problems are health-related (Andersen, 1995; Angermeyer and Matschinger, 1996). Figure 2b illustrates this potential mismatch between those with a clinically-assessed need for formal care and those who self-assess as having such a need, recognising that only a portion of those who self-identify as having a mental health problem will then progress to obtaining formal mental health care. While such a mismatch may occur only rarely when individuals have acute physical health problems (for example, a broken arm), it is much more likely to be an issue for those suffering from common mental health problems such as depression (Jorm et al, 2000, Veitch, 1995).

Measuring equity of access to mental health services on the basis of need requires data on two factors in a representative sample of the whole population: need for mental health services and whether or not such services are obtained. Policy initiatives that aim to improve the correspondence between these two factors will need information on the attributes and health of three subgroups: those with

Figure 2a: **Depiction of the process of selection from self-identifying as having a mental health problem to seeking formal help for that problem to obtaining such help for that problem**

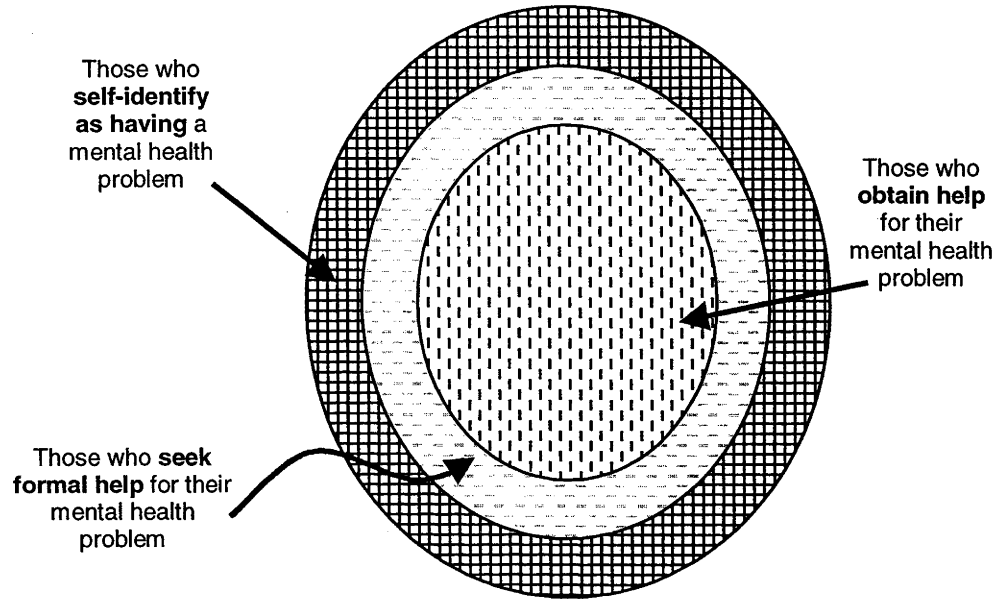
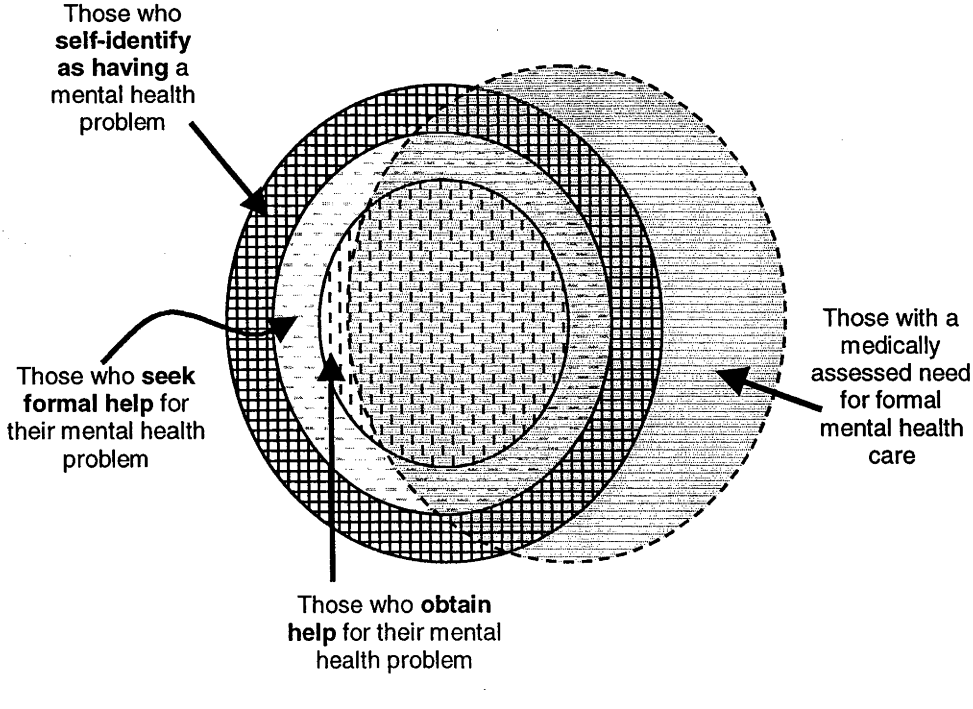


Figure 2b: **Depiction of the overlap between:**
those self-identifying as having a mental health problem, seeking formal help, and obtaining formal help for that problem;
AND those meeting requirements for a clinical diagnosis of mental disorder.



medically assessed needs who did not obtain care; those who obtained care, but whose health problems would not be medically assessed as warranting such care; and the overlapping group, those who obtained clinically needed treatment. In order to assess the numbers and attributes of Australians in each of these three groups, data from a representative community-based sample of the population is needed.

Sampling unit

There are various health policy questions considered by governments that can be satisfactorily answered with information collected at the community or regional level. Decisions made to develop new facilities, for example, are often based on estimates of the size of the current and future population, and current total levels of consumption of specific health services. In comparison, equity of access to health care across different sectors of the population can only be assessed using data that matches health care needed and health services obtained at the individual level. Analyses of community level data can supply aggregate information (for example, average cost of health care per person, average distance travelled to health services), that allow broad assessments to be made concerning the adequacy of services for the community as a whole. Such data will not allow those developing and revising health policy to identify the personal or sociodemographic attributes of those who need, but consistently fail to obtain, formal health services. Similarly, community level analyses will not identify the attributes of those individuals whose utilisation of formal services exceeds their clinically-assessed need for such care. Even if a community's membership is highly skewed with respect to an attribute being explored, for example, ethnic background or level of education, comparative information on numbers of services used by individuals with and without that attribute cannot be inferred unless all other potential confounding factors have also been controlled. Robinson (1950) labeled this potential source of epidemiological

error 'the ecological fallacy' and various epidemiologists since then have emphasised the dangers of drawing inferences about individuals from ecological studies (Connor and Gillings, 1974; Piantodosi et al, 1988).

Identifying the common attributes of those in the community for whom there is inequitable access to mental health care, needs to draw on analyses of data collected at the level of the individual. The Andersen behavioural model, described briefly in the previous chapter, has also been developed from this perspective; it is the various need, enabling and predisposing factors of the individual that will determine whether that individual obtains health services.

Data items required

Measuring access to formal mental health care on the basis of medically assessed need requires that both terms, level of access to formal mental health care and medically assessed need for such care, be defined and quantified. Similarly, if the effect of personal and health system factors on access to needed care is to be estimated, variables that quantify those effects must be identified. The following sections consider the types of variables that could be used to measure need for, and access to, formal mental health care. Predisposing and enabling variables that could measure the effects of personal and health system factors on individuals' access to needed care are also considered.

Variables measuring medically assessed need

Earlier in this chapter, it was noted that those with a medically assessed need for formal mental health care are a broader group than those with clinically diagnosed mental disorder. Provision of formal treatment to those with subthreshold levels of symptoms can represent a sound allocation of health resources. This is particularly so if the symptoms presented indicate a condition that can be effectively treated at the subthreshold level or if early intervention may reduce the likelihood of

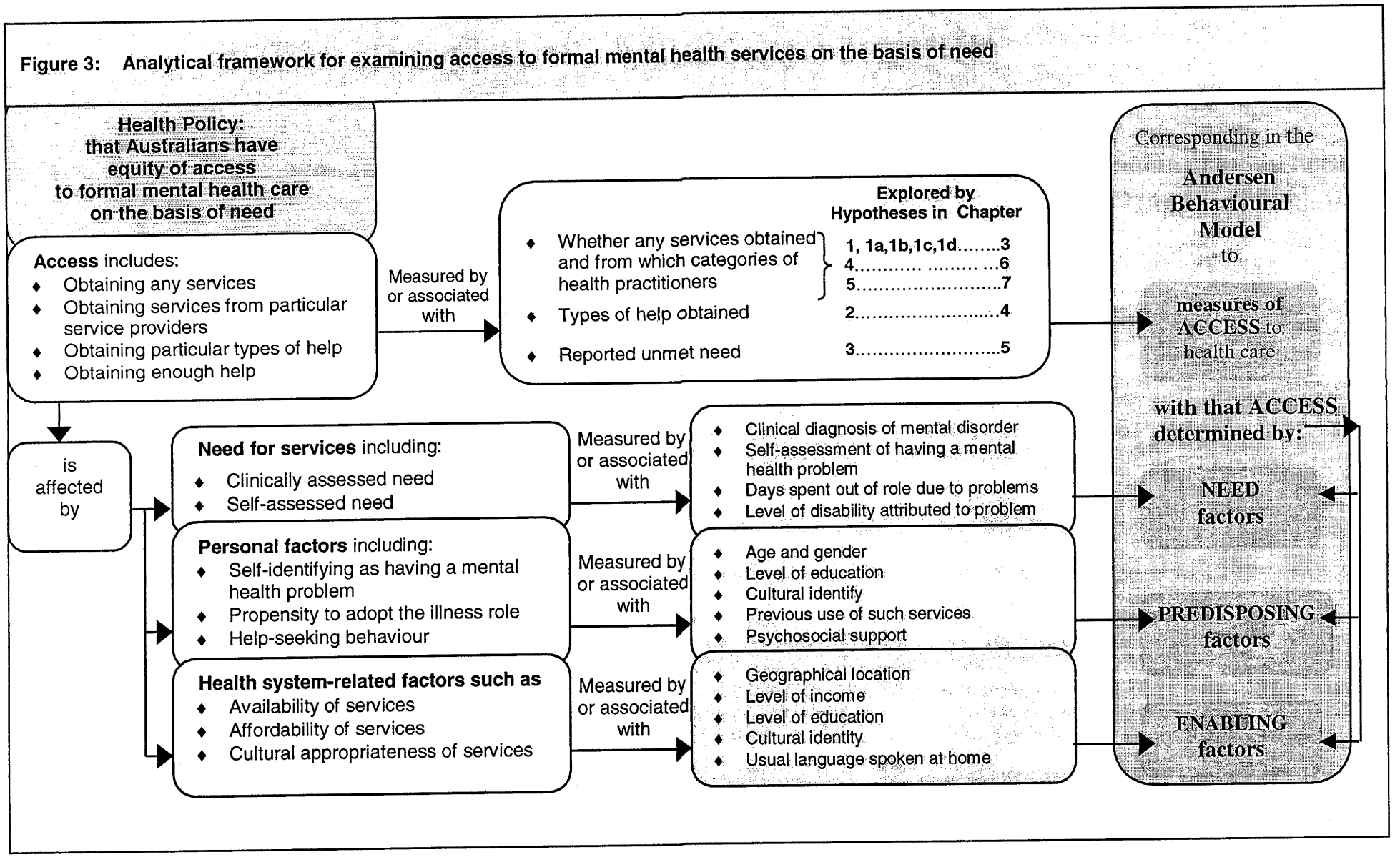
the individual's experiencing a more severe recurrence of symptoms in the future. (Kupfer et al, 1989; Lewinsohn et al, 2000; Rapaport and Judd, 1998).

Information on mental disorders currently being experienced by the individual is usually best obtained using a well-tested diagnostic tool. Details of clinical and subthreshold symptoms of mental disorder can be obtained by using well-tested instruments (for example, the Short-Form Health Survey [Ware et al, 1996] or the General Health Questionnaire [Goldberg and Williams, 1988]) or by asking questions that draw out self-assessed information on possible symptoms of mental disorder. Other need-related factors could be used to measure the impact of mental health problems on the individual's life. Days spent out of role as a result of mental health problems, for example, could gauge the impact of mental health problems on the individual's life and daily functioning. Other factors, such as the recent occurrence of stressful life events, or experience of physical health problems, could also indicate the potential for the individual's experiencing mental health problems (Ahto et al, 1997; Salokangas and Poutanen, 1998; Zola, 1973). A list of some of the data items that could be taken as measures of need is given in Figure 3.

Enabling variables measuring the impact of health system factors on the individual

The impact of the health system factors of availability, affordability and cultural appropriateness of services on the individual's level of access to needed care will depend on particular attributes of the individual. These attributes were classified by Andersen as enabling variables. Availability of services for individuals, for example, will be affected by such factors as: distance to the nearest mental health services, availability of public transport to such services; service opening hours; and whether health practitioners provide home consultations. Across Australia, the factor most affecting availability of health services is the individual's geographic location.

Figure 3: Analytical framework for examining access to formal mental health services on the basis of need



For those living in rural and remote areas, there are fewer general practitioners, fewer psychiatrists and fewer allied health practitioners including psychologists and counsellors practising in their local regions (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 1999).

Various factors can indicate the affordability of formal health services, including the individual's gross income, disposable income, local cost of living and number of dependents. Affordability of services will also depend on the category of health practitioner from whom help is sought as well as the employment arrangements and billing practices of that practitioner. As discussed in Chapter One, fees charged for services provided by general practitioners and privately practising psychiatrists are at least partly reimbursed through the Medicare system. Those living in more populated areas may be more likely to obtain such care free-of-charge since practitioners working in locations where there is competition for clients, for example, inner city areas, more frequently bulk-bill for their services (Australian Medical Workforce Advisory Committee and Australian Institute of Health and Welfare, 1998). Affordability of mental health services provided by medical practitioners may be a problem for those with lower incomes if the practitioners in question do not bulk-bill for their services. Health professionals who deliver mental health services in the public sector, including medical practitioners, social workers, drug and alcohol counsellors and mental health teams, usually occupy salaried positions and provide their services free of charge to the consumer (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 2000). Private health professionals other than general practitioners and psychiatrists, including psychologists and counsellors, will charge fees for their services and the cost of ongoing mental health care provided by this group of practitioners is likely to be an issue for many individuals. Affordability of the services provided by privately

practising psychologists and counsellors is likely to be an issue for a larger sector of the community (National Mental Health Strategy Steering Committee, 1997).

Cultural appropriateness of services is more difficult to measure from information at the individual level since it also depends on the attributes of the health professionals whose services are available to that individual. Those from different cultures or with limited English are likely to have only limited access to health professionals with the same cultural background and language skills (National Mental Health Strategy Steering Committee, 1997; Stuart et al, 1996). There is a range of factors that can discourage even English-speaking Australians from presenting mental health related problems to their English-speaking general practitioner. These problems can multiply when an individual with limited English attempts to seek help for a health problem that they are unable to communicate adequately. Those from other cultures may also take into account a quite different constellation of measures when describing their presenting health problem (Wiseman, 1999). While governments have not sought to make available culturally appropriate health services for all Australians, they acknowledge that the unavailability of such services for all Australians represents a deficiency in the health care system (Commonwealth Department of Health and Aged Care, 1999e). Indicators at the individual level that can be used to measure the possible impact of that deficiency on individuals' access to formal mental health care include language usually spoken at home and self-reported cultural identity.

Predisposing variables measuring the impact of personal factors

The personal attributes that influence the individual's route to obtaining formal mental health care are those affecting the individual's self-identifying as being unwell (including health expectations, health knowledge and health awareness), propensity to adopt the illness role and help-seeking behaviour. As

discussed in Chapter One, these personal variables are difficult to measure. More often, their effect is estimated by measuring the association between health service utilisation and various sociodemographic variables that are neither needs-related nor considered to be enabling factors. In Andersen's model, these variables were identified as predisposing. Potential problems in drawing useful health policy conclusions about the impact of personal factors on health care access from findings of analyses that include predisposing variables were also considered briefly in Chapter One.

Variables that have been identified as predisposing an individual to use health services are listed in Figure 3 and include: the individual's age, sex, level of education, cultural background, and experience of chronic illness (Estroff et al, 1991; Greenley and Mechanic, 1976; Leaf et al, 1986; Wells et al, 1986). Other factors that have been found to affect the individual's help-seeking behaviour for mental health problems have included: having lower levels of psychosocial support, and being satisfied with formal mental health services obtained previously (Bucholz and Robins, 1987; Marino et al, 1995; Briones et al, 1990; Dew et al, 1988; Galbaud du Fort et al, 1999).

Measures of access to formal mental health services

These measures refer to the various dimensions of health service delivery by which access to formal mental health care might be gauged: whether any formal health care is obtained, number of episodes of treatment, categories of health professionals providing that care, types of assistance provided and the extent to which care received was assessed by the individual as having satisfactorily met mental health care needs (as in Figure 3). In the framework of the Andersen behavioural model, each of these measures can be taken as a dependent variable. Analyses can then be undertaken to identify the predisposing, enabling and need

variables associated with obtaining: any mental health help; help from particular categories of health care provider; or help that addresses the individual's mental health care needs. Most of this information, for example, types of assistance provided and whether needs have been met, can only be provided by the individual. However, the quality of data concerning service utilisation may be improved by using independent sources to corroborate the information provided. Detailed recall of such information by the individual obtaining such care has been found to be subject to memory distortion (Marshall, 2001).

Are there data sets that meet these requirements?

The previous sections identified the various components of a data set that could be used as the basis for examining equity of access to formal mental health services. The data set that is required, then, needs to provide information at the individual level, with individuals selected from the community and not on the basis of their previously using formal health services. Data items in this set should include at a minimum: self-assessed and clinically-assessed mental health; primary sociodemographic factors including age, sex, geographic location, education, income, and measures of access to health services including health services used and types of health practitioners providing those services. Two data sets that provide a satisfactory match with these specifications were made available for analyses for this research. These were the National Survey of Mental Health and Well-being, and the PATH Through Life Project. The following sections provide further details on both of these surveys.

The National Survey of Mental Health and Well-being

This survey of a representative sample of Australian residents living in private dwellings in all States and Territories was conducted by the Australian Bureau of Statistics (ABS) in 1997. People living in special dwellings, for example,

hospitals, institutions, nursing homes, hotels and hostels, were not included in the sample. Nor did the sample cover Australians living in dwellings in remote and sparsely settled parts of Australia (ABS, 1999). Persons from overseas holidaying in Australia, members of non-Australian defence forces and their dependants stationed in Australia, and households containing non-Australian diplomatic personnel were also excluded from the sample. A total of 13,600 households were approached by interviewers with one person aged 18 or over from each household randomly selected to participate in the survey. A total of 10,641 individuals were surveyed, giving a response rate of 78% (ABS, 1999). The ABS produced a confidentialised unit record file (CURF) on CD-ROM which could then be purchased by researchers under specified conditions of sale. The Centre for Mental Health Research has purchased this CURF and made it available for the analyses undertaken for this study.

The National Survey of Mental Health and Well-being (referred to hereafter as the National Survey) collected a considerable amount of information on each survey participant. The information obtained covered various sociodemographic measures, dimensions of physical health and psychological stress. The survey data included a range of data items that could be analysed from the perspective of the Andersen model to identify need, enabling and predisposing variables associated with Australians having access to formal mental health services. These variables are described in the following sections.

Measures of need

The National Survey included a range of measures that could be used to assess the individual's need for mental health services. Detailed information on each individual's mental health was obtained using the Composite International Diagnostic Interview (CIDI), a computerised version of which, including diagnostic

algorithms, was developed for this survey. The CIDI translates the criteria of the International Classification of Diseases (ICD-10) into sets of questions that could be readily answered by the general adult population (ABS, 1999). Individuals were then diagnosed as having affective disorder, anxiety disorder or substance abuse disorder when they met the criteria required by the CIDI algorithm. After completing the CIDI, participants were asked to identify the self-reported health problem that troubled them the most, allowing identification of those whose main self-identified problem was a mental health problem. Data items covering the individual's physical health, psychological distress and the impact of mental health problems on usual activities were also obtained.

Measures of access

This survey also included questions on the numbers of health services used by participants for mental health problems in the past year, and the categories of health practitioners who provided those services. Participants were asked questions concerning the types of assistance they had been provided when seeking help for mental health problems; whether they had been given: information, medications, psychological therapy, practical help, for example, with employment or finances, or help looking after themselves and their home. These data provided three measures of access: utilisation of any formal health services for mental health reasons, utilisation of health care by type of health practitioner, and type of assistance provided those who had obtained some mental health help.

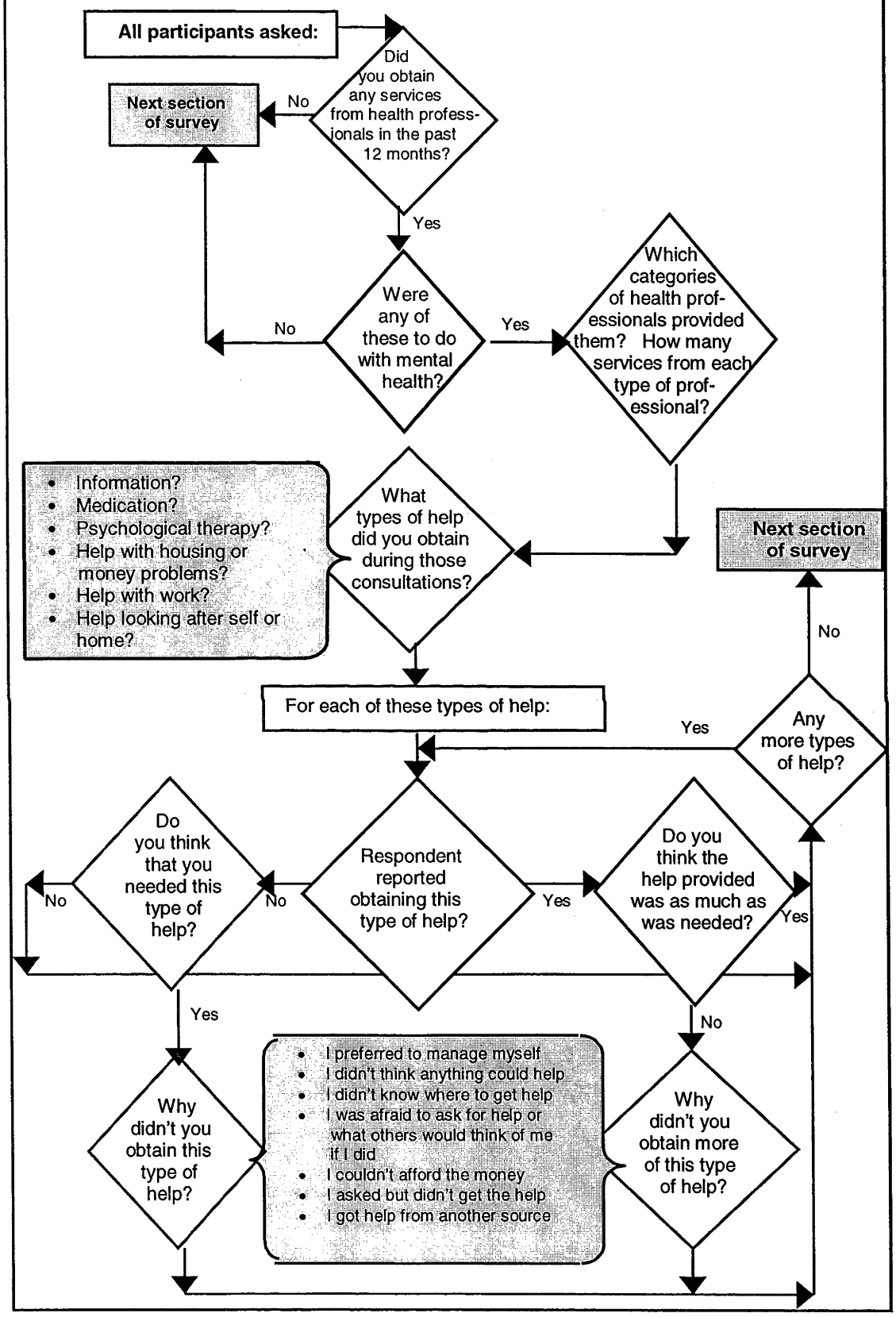
Other data provided information on the extent to which those with mental health problems perceived that their health care needs had been met. Respondents obtaining each type of assistance were asked whether they had received enough of that type of help. Those who had not obtained that type of assistance, but had seen a health practitioner for mental health reasons, were asked if they considered that they

probably had needed the types of assistance which they had not received. Respondents' reasons for not obtaining any, or enough, assistance were also sought. Finally, those with possible mental disorders who had not obtained any formal health services for those problems in the past year were also asked whether they felt that had needed such help. A flowchart describing the structure of these questions concerning use of health services is given in Figure 4.

Enabling and predisposing factors

Sociodemographic variables collected on each individual included those that have been used to measure the enabling and predisposing factors that could affect the individual's access to formal health care. Information on geographical location, assumed to be a primary enabling factor affecting availability of services, was limited. Respondents were identified as living in metropolitan areas, large or small rural centres, or other rural areas, but no information on the participant's state or territory of residence was included. Enabling factors that might affect the affordability of services were also limited; information on level of income was not obtained. Other factors that were collected and that could correlate with income included employment status, period of unemployment, and main source of income. Survey variables that might measure the importance of having available culturally and linguistically appropriate health services included country of birth, year of arrival in Australia if born overseas and whether or not usual language spoken at home was English. Participants of Aboriginal or Torres Strait Islander heritage were not identified on the data set made available to the public for confidentiality reasons. Sociodemographic variables that have been previously identified as predisposing the individual to use health services, including sex, age and level of education, were also available for each survey respondent.

Figure 4: Flowchart of questions on use of health services for mental health problems, asked of participants in the National Survey for Mental Health and Well-being



The PATH Through Life Project

The PATH Project, a longitudinal survey of three age groups of adults living in the Canberra region, is currently being undertaking by the Centre for Mental Health Research at the Australian National University. Data obtained from respondents in two of these age groups were made available for the research for this thesis.

Participants in the first wave of the PATH Through Life Project were aged between 20 and 24 years on 1 January 1999 and were listed on the Electoral Rolls for Canberra and Queanbeyan, Australia. Those in the second wave were drawn from the same Electoral Rolls and were aged between 40 and 44 years on 1 January 2000. As the Australian Electoral Commission released only decade age ranges for research purposes, potential participants initially contacted for interview were aged 20 to 29 years and 40 to 49 years. Information on the numbers of potential participants contacted, and response rates for both age groups is given in Table 2.

Table 2: PATH Through Life Project: Response rates for the surveys of 20 to 24 year olds and 40 to 44 year olds.

	Survey of 20-24 year olds	Survey of 40-44 year olds
Number of letters sent to potential participants	12414	9033
Number who had moved out of the area	1061	280
Number who could not be contacted	2190	612
Number who were not in age group	5058	4222
Number who refused to participate or who had no English	1701	1389
Number of participants	2404	2530
Participants as % of those found and in the age range	58.6%	64.6%

In both surveys, respondents were asked to complete a questionnaire that included a range of measures covering sociodemographic characteristics, symptoms of anxiety, depression and substance abuse, and use of health services. Participants were also asked whether they had experienced suicidal ideation and, if so, the severity of their suicidal feelings. Individuals who reported having suicidal thoughts were considered to have indicated their clinical need for formal mental health help. They were also asked about symptoms of depression they had experienced during the past 12 months. Those reporting such symptoms were then asked further questions concerning whether they had talked about these problems to a doctor or to any other professional. This subset of data could be analysed, again from the perspective of the Andersen behavioural model, to identify the relative contributions of need factors (suicidal ideation) and predisposing factors (gender) in determining who sought help from the formal health care system to deal with their depressive symptoms.

Participants were also asked for their permission for the Centre for Mental Health Research to access information on the number of health practitioner visits they had made that were covered by the Medicare insurance system during the period from six months before to six months after their interview. The data on Medicare services obtained by the younger cohort of 2,184 participants who gave such permission were also available for analysis for this thesis. This offered the opportunity to explore the extent to which variables indicating mental health need and non-need factors were associated with obtaining care for any health problems from general practitioners.

The focus of the remaining chapters of this thesis

This thesis reports the findings of analyses that have applied the Andersen model to examine the extent to which Australians can be said to have equal access to

formal mental health care on the basis of need. Chapters Three to Seven each examine this question from a different perspective.

- Chapter Three reports findings from analyses of the National Survey that identify the extent to which need, enabling and predisposing factors are associated with Australians obtaining any help from the formal health care system for their mental health problems. It also explores associations between need, enabling and predisposing variables and individuals reporting that they have obtained mental health help from particular categories of health practitioner. The analyses reported in this chapter answer the health policy question: *Is need for mental health help the primary factor associated with people using formal health services for mental health reasons, or are such services more likely to be used by those who are predisposed or enabled to use such care?*
- Chapter Four again reports on analyses of the National Survey. The focus of these analyses is to identify need, enabling and predisposing factors associated with individuals being provided particular forms of assistance when they obtained formal health services for mental health problems. The results of these analyses address another health policy issue: *In Australia's health care system, are there differences in the types of assistance provided to those from different sectors of the population who present with comparable mental health needs?*
- Chapter Five completes the reports on the analyses of the National Survey. The findings reported in this chapter address the questions: *After controlling for need, to what extent are predisposing or enabling factors associated with individuals reporting that their mental health care needs are only partially met or not met at all? Are there particular subgroups of Australians whose need for mental health help is unmet?*

- Chapter Six moves from self-reported use of services for mental health reasons to examine independently recorded levels of general practitioner services obtained by a cohort of young adults who participated in the PATH Project. This analysis explores the extent to which having mental health needs affects an individual's use of general medical care.
- Chapter Seven examines data from the two age groups of respondents to the PATH Through Life Project. It identifies patterns of formal health care utilisation by individuals who had identified mental health needs, having reported suicidal ideation or action over a 12-month period. The findings of this analysis bring the focus back to the primary mental health policy question: *To what extent do Australians who need help for their mental health problems obtain such help from the formal health care system?*
- The final chapter draws together the findings reported in the previous chapters and returns to the original health policy question: *Do Australians have equal access to formal mental health services on the basis of need?* It summarises the key findings of these analyses that have identified particular subgroups of the population for whom equitable access on the basis of need is still to be achieved. The chapter then discusses some of the policy options that could be explored by governments and identifies possible areas of future research that could usefully inform that exploration.

Chapter Three:
Need, predisposing and enabling factors associated with using mental health services in Australia

Chapter Three Abstract

This chapter reports on findings from analyses of the National Survey of Mental Health and Well-being. These analyses, based on the Andersen behavioural model, examined which need, predisposing and enabling variables were associated with Australians obtaining help from the formal health care system for their mental health problems. Simple and multiple logistic regressions were undertaken to identify which of 21 predictor variables were associated with Australians reporting that they obtained any mental health help and services provided by general practitioners, psychiatrists, psychologists and other health professionals.

Overall, 10.8% of respondents reported that they had received help for mental health problems with over 75% of this sub-population obtaining help from general practitioners. When multiple regressions were undertaken, the predictor variables found to be most associated with using mental health services were those that related to measures of need for such care, including having a CIDI diagnosed mental disorder, self-identifying as having a mental health problem, or having a higher than average General Health Questionnaire score. After controlling for need factors, three predisposing variables were found to be significantly associated with obtaining any mental health help: being female, having a higher education and being separated. The analyses indicated that respondents who lived in rural or remote areas were significantly less likely to have obtained psychiatrists' and psychologists' services, but not services

provided by general practitioners or other health professionals. The following conclusions can be drawn from these analyses. Firstly, the predictor variables most strongly associated with obtaining mental health services are those that measure need for such help. Nonetheless, there are some inequalities between different sectors of the population in their level of mental health service utilisation with those in rural and remote areas obtaining fewer specialist services. Further, respondents who were female or more highly educated were more likely to have obtained mental health care.

Introduction

This is the first of three chapters that will report on analyses of data from the National Survey of Mental Health and Well-being based on the Andersen behavioural model. In this chapter, two measures of mental health care access are examined: utilisation of, or *realised access* to, formal mental health services, and categories of health professionals providing those services.

The hypotheses that will be tested in this chapter are that in Australia:

- **Only need factors are associated with individuals reporting that they have obtained health services for their mental health problems. After controlling for need-based factors, no personal or health-system factors are associated with obtaining such care.**
- **Only need factors are associated with individuals reporting that they have obtained mental health help from:**
  - **general practitioners,**
  - **psychiatrists,**
  - **psychologists, or**
  - **other health practitioners.**

Data items examined here include sociodemographic variables and a subset of participants' responses to the survey questions depicted in Figure 4, concerning use of health services for mental health problems. The next section of this chapter briefly describes previously reported findings from other studies that have drawn on the Andersen model to analyse patterns of mental health service utilisation. The remainder of the chapter then addresses the methodology and statistical techniques used in this study and describes and discusses the results of these analyses in the Australian context.

Previous findings concerning mental health services

A number of writers have previously applied the Andersen model to identify the need, predisposing and enabling variables associated with using mental health services in countries outside Australia. Most of these analyses have been undertaken in the United States and have focused on particular subgroups of that population, for example, rural youth (Rickert et al, 1996), women (Padgett et al, 1994a), indigenous populations (Barney, 1994), people from different ethnic groups (Cooper-Patrick et al, 1999; Padgett et al, 1994b), homeless adults (Padgett et al, 1990) or homeless veterans (Gamache et al, 2000; Wenzel et al, 1995). The consistent finding across these analyses is that factors measuring need, whether self-assessed or clinically defined, predict mental health service use more strongly than do enabling or predisposing factors (Barney et al, 1994; Cooper-Patrick et al, 1999; Leaf et al, 1988; Padgett et al, 1990; Rickert et al, 1996; Wenzel et al, 1995). After controlling for need for mental health services, a number of these writers also found predisposing variables to be significantly associated with using such services including: age (Padgett et al, 1994b), level of education (Wenzel et al, 1995), ethnicity (Cooper-Patrick et al, 1999; Padgett et al, 1994a), and residential stability

(Wenzel et al, 1995). Leaf and coauthors (1988) found that predisposing factors (in their analyses, age and marital status) became significant only when considering services provided by specialist health practitioners. Enabling factors most often identified as significantly associated with health service use in these American-based studies related to level of health insurance (Padgett et al, 1990; 1994b) or health care entitlements (Gamache et al, 2000).

These findings can have only limited relevance for Australia given the considerable differences between the Australian and United States systems of health insurance and health service delivery. Under the Medicare system, all Australians are entitled to at least partial reimbursement of their medical service fees including those charged for mental health related services provided by general practitioners and psychiatrists. Paying for needed health care may be more difficult for individuals in the United States who do not have employment-related health cover or whose longer term needs are not covered by Medicare, the limited federal scheme available for the elderly and those with disabilities (Commonwealth Department of Health and Aged Care, 1999d; Manderscheid et al, 2000).

Methodology

Data items

Information was given in the previous chapter on the population sampled and response rate for Australia's National Survey of Mental Health and Wellbeing. This section provides more detail on, and discusses some issues around, particular data items used as predictor variables in the analyses reported in this chapter. A list of these data items is given in Table 3. Information on the data items used as dependent variables is provided in Table 4.

Table 3: Descriptions of need, predisposing, enabling predictor variables included in this chapter's analyses

Variable:	Scoring method
Predisposing variables:	
Age	Age range 18-19, 20-24, 25-29, ... 65-69, 70-74, 75 & over Score 1, 2, 3, ... 11, 12, 13
Sex (female)	Male - 0; Female - 1
Higher education	Undertaking or have completed tertiary education - 1, else - 0
Living alone	Only person in household - 1, else - 0
Separated	Marital status separated - 1, else - 0
Divorced	Marital status divorced - 1, else - 0
Enabling variables:	
Rural	Living in large or small rural centre - 1, else - 0
Remote	Living in other rural areas - 1, else - 0
Usual language not English	Usual language spoken at home not English - 1, else .- 0
Government assistance	Main income government pension, allowance, benefit - 1, else - 0
Unemployed	Labour force status unemployed - 1, else - 0
Need variables:	
CIDI affective disorder	Given CIDI diagnosis of affective disorder - 1, else - 0
CIDI anxiety disorder	Given CIDI diagnosis of anxiety disorder - 1, else - 0
CIDI substance abuse disorder	Given CIDI diagnosis of substance abuse disorder - 1, else - 0
Self-identified depression	Most troublesome health problem depression - 1, else - 0
Self-identified anxiety	Most troublesome health problem anxiety - 1, else - 0
Self-identified substance abuse	Most troublesome health problem substance abuse - 1, else - 0
GHQ score	Score on 12-item General Health Questionnaire, range 0 to 12
EPQ-R Neuroticism score	Score on the EPQ-R Neuroticism scale, range 0 to 12
Days out of role	Number of days out of role in the last month due to health problems
Number of physical conditions	Number of physical conditions from: asthma, chronic bronchitis, anaemia, high blood pressure, heart trouble, arthritis, kidney disease, diabetes, cancer, stomach ulcer, chronic gallbladder or liver trouble, hernia or rupture.

Measures of access: utilisation of mental health services and health professionals providing those services

Respondents were identified as having used formal health services for mental health reasons if they reported that, in the 12 months preceding the survey, they obtained at least one health service relating to mental health problems from a health

professional. Participants who responded that they had obtained mental health related services were also asked to identify the number of services obtained from each of 14 different categories of health professionals, including general practitioners, psychiatrists, psychologists, other medical specialists and paramedical health professionals. A fifteenth category of 'other health professional' was also included. These different categories of health professionals are listed in Figure 5. In this study, the last 11 categories of health care provider were grouped together as 'other health professionals'. The data items indicating mental health service utilisation that were provided in the Confidentialised Unit Record File (CURF) used for these analyses applied a variety of classification methods to indicate the number of visits to different categories of health professional. For example, when an individual made fewer than 11 mental health related visits to general practitioners, the visit count recorded for that individual corresponded to the number of visits. On the other hand, those making between 11 and 15 such visits all received the same

Table 4: Description of, and mean scores for, dependent variables indicating use of formal health services for mental health reasons.

Variable	Scoring method	Percentage for: total population	Percentage for: those who obtained any mental health help
Any mental health services	Obtained services for mental health problems in last year – 1, else – 0	11.1	100.0*
General practitioner visit	Received mental health help from GPs in last year – 1, else 0	8.2	73.8
Psychiatrist visit	Received mental health help from psychiatrists in last year – 1, else 0	1.8	16.1
Psychologist visit	Received mental health help from psychologists in last year – 1, else 0	1.5	13.6
Other health professional visit	Received mental health help from other health professionals in last year – 1, else 0	3.6	32.3

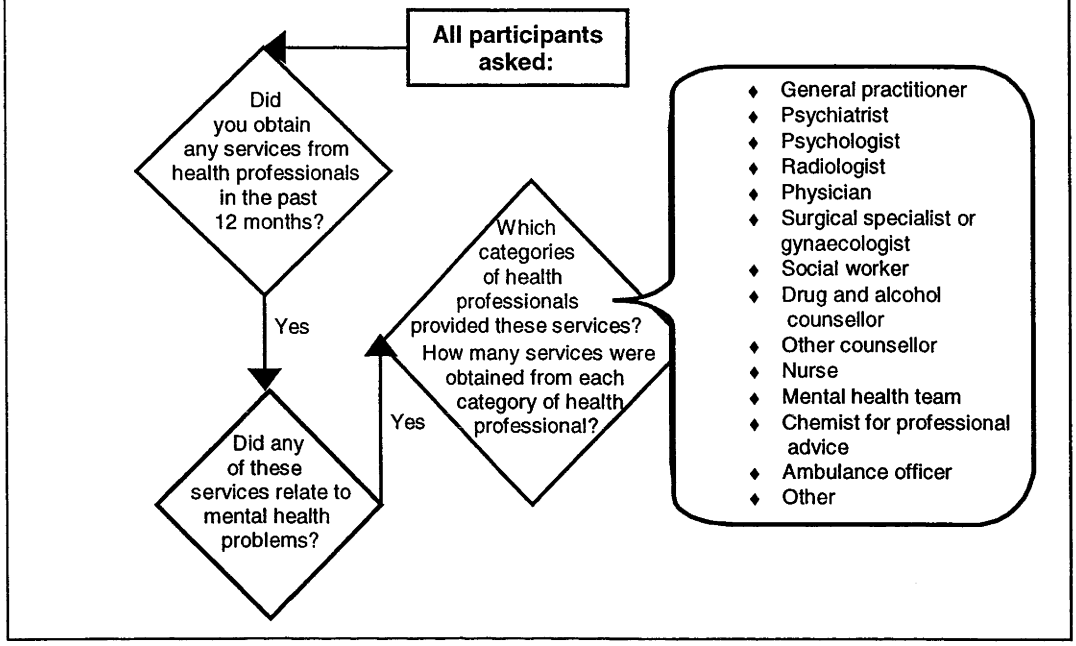
* This score results from the definition of the variable

group score. Further, different scoring systems were used for recording the numbers of visits made to different categories of health professionals. The score given an individual who made nine visits, say, to a general practitioner indicated the exact number of visits whereas an individual who reported making nine visits to a psychiatrist was grouped with others who had made between six and ten visits. These different grouping mechanisms reduced the amount of health service information available and also limited options available for examining level of service use across different categories of health professionals.

Predictor variables measuring need

As explained in Chapter Two, participants' clinically-assessed need for mental health care was identified by their responses to the questions of the computerised version of the CIDI developed for this survey. Participants were classified as having a clinically diagnosed affective disorder if, following their responses to the CIDI, they were given one or more of the following ICD-10 codes: F30.0, F30.1, F30.2, F31, F32.0, F32.1, F32.2, F32.00, F32.01, F32.10, F32.11, F33.00, F33.01, F33.10, F33.2 or F34.1. Those classified as having an anxiety disorder had been given one or more of these ICD-10 codes: F40.0, F40.00, F40.01, F40.1, F41.00, F41.01, F41.1, F42.0, F42.1, F42.2 or F43.1. Finally, those classified as having substance abuse disorder had been diagnosed as having one or more of: F10.1, F10.2, F11.1, F11.2, F12.1, F12.2, F13.1, F13.2, F15.1 or F15.2. While some studies have confirmed the reliability and validity of this instrument (Andrews and Peters, 1998), others have raised concerns about the potential for this instrument to overestimate prevalence of mental disorders in the community (Brugha et al, 2001; Regier et al, 1998). Variables indicating the presence or absence of CIDI-diagnosed affective disorder, anxiety disorder and substance abuse disorder were generated for all survey respondents.

Figure 5: Structure of questions concerning utilisation of health services for mental health reasons and categories of health professionals providing those services



There are also limits to the usefulness of the variable describing self-assessed mental health problem. After completing the CIDI questionnaire, participants were asked to identify the health problem that troubled them the most. As shown in Table 5, variables indicating the presence or absence of self-assessed depression, anxiety or substance abuse were derived for all respondents on the basis of their answers to this question. A major problem with this method of categorising self-assessed mental health problems is that individuals were allowed to identify only one health problem as troubling them. As a result, respondents who considered that they were most troubled by a physical health problem could not also indicate whether mental health problems worried them. Similarly, those with one or more mental health problems were required to select that which troubled them the most. Hence, an individual with symptoms of anxiety and depression, commonly found to co-exist (Judd et al, 1998), could not be categorised as self-identifying as having both problems. While an individual's responses to the CIDI questionnaire indicated

whether that individual had more than one mental health problem, no information was available to indicate whether secondary health problems were also of concern; that is, whether the individual would have also self-identified as having multiple mental health concerns. The data on self-assessed mental health problems used in this analysis, then, are likely to underestimate the extent to which people in the community self-identify as having mental health problems.

Table 5: National Survey of Mental Health and Well-being: categorisation of self-identified mental health problem from responses to a question concerning the most troublesome health problem

Health problem	Number giving this as most troubling	Self-identified mental health problem	Health problem	Number giving this as most troubling	Self-identified mental health problem*
Asthma	233	None	Tiredness/exhaustion	92	Anxiety
Bronchitis	58		Social fears	228	Anxiety
Anaemia	21		Fear of travelling	94	Anxiety
Blood pressure	204		Fear of panic	59	Anxiety
Heart trouble	197		Months of worry	65	Anxiety
Arthritis	687		Sad for more than 2 years	52	Depression
Kidney disease	28		Sad for more than 2 weeks	308	Depression
Diabetes	90		Unusual ideas	6	None
Cancer	57		Recurrent thoughts	44	Anxiety
Stomach ulcer	61		Traumatic event	151	Anxiety
Gallbladder or liver disease	24		Nature/personality	87	None
Hernia/Rupture	51		Drug use	52	Substance abuse
			Drinking	70	Substance abuse
Number of health problems	**7,322**				
Total number of respondents	**10,641**				

* Since this study is examining health services used by those with common mental health problems of anxiety disorder, affective disorder and substance abuse disorder, information concerning individuals self-identifying as having symptoms of psychoses or personality disorder was not used.

Days out of role as a result of mental health problems, and the number of physical health problems were also included as need-related variables. Two further

measures, the score on the 12-item General Health Questionnaire (GHQ) (Goldberg and Williams, 1988), and the Neuroticism scale of the short form of the Revised Eysenck Personality Questionnaire (EPQ-R; Eysenck et al, 1985) were included as measures of distress that could indicate an individual's need for mental health help. Because these are continuous measures, they would be sensitive to sub-syndromal symptoms not captured by CIDI diagnoses. The reliability and validity of these instruments have previously been confirmed (McDowell and Newell, 1996). All of these items were listed in Table 3.

Predictor variables measuring predisposing and enabling factors

Sociodemographic variables measuring predisposing factors that were collected or could be generated for all respondents included: sex; age given in five-year age groups; whether they were studying for, or had completed, tertiary education; whether living alone; whether separated and whether divorced. Enabling factors available from the data set included two measures of geographical location - in a rural location for those who lived in a large or small rural centre, and in a remote location for those living in other rural areas. A dummy variable indicating whether English was the usual language spoken at home was chosen as a gauge of the importance of there being available culturally and linguistically appropriate services. There were only limited data items that could be used to measure level of income. While the data set included each respondent's index of relative socio-economic disadvantage (SEIFA), developed by the Australian Bureau of Statistics (ABS) to measure socio-economic disadvantage by region, this data item was found to have errors and was not used in these analyses. Instead, the analyses included two dummy variables that could be taken as proxy measures of income: whether unemployed, and whether main source of income was government pension, allowance or benefit.

Weightings

The ABS data file included 31 weights for each of the 10,641 records. The application of the first of these, the global weight, provided estimates of the Australian population that conformed to national age-by-sex population estimates (ABS, 1999). The technical paper accompanying the CURF emphasised that researchers deriving survey estimates for population subgroups should calculate these by applying this global weight, and not using a straight count of persons. The jackknife method of replication (Wolter, 1985) was then used by the ABS to calculate 30 replicate weights for each record as follows:

- the total sample was divided to form 30 replicate groups, with each group mirroring the overall sample;
- a set of replicate weights was obtained by dropping one of these groups, and recalculating weights for the remaining 29 groups so that this subset, when weighted, provided estimates of the Australian population; the replicate group dropped was given weights of zero.

This process was repeated until each record had 30 replicate weights, one of them zero (ABS, 1999). The application of these weights in the analyses reported here is described in more detail in the following section.

Statistical analysis

Descriptive analyses using the global-weighted data were undertaken first to calculate mean measures of all variables measuring mental health service use, and the need, enabling and predisposing factors for both the total population and the subset of the population who reported obtaining any mental health help. A second descriptive analysis determined the percentage of respondents with a self-diagnosed mental health problem or CIDI diagnosed mental disorder to obtain mental health care from the four categories of health professional.

Given the variation in coding of health service utilisation across different categories of health profession, it was decided to recode the dependent variables measuring utilisation into binary variables. These indicated whether or not individuals had obtained any mental health help, mental health care from a general practitioner, from a psychiatrist, from a psychologist, or from other health professionals. Simple and simultaneous multiple logistic regressions were then used to quantify the associations between the need, predisposing and enabling variables listed in Table 3 and mental health care utilisation as measured by the five dependent variables in Table 4. These analyses provide estimates of the magnitude of association between the dependent variable in question and one or more predictor variables. Simple logistic regressions estimate the magnitude of association between the dependent variable in question and a single predictor variable. These coefficients of association can be expressed as odds ratios, that is, the odds of an individual who is identified by a predictor variable, being female, say, satisfying the requirements for the dependent variable, in this case obtaining health care. Such analyses provide estimates of the relative levels of services used by two mutually exclusive groups within the population for example, men and women, unemployed and employed and so on.

Estimates of the extent to which a number of predictor variables simultaneously affect an individual's use of services require multiple logistic regression. This form of analysis estimates the association between a dependent variable and multiple predictor variables and can be used to measure the contribution of predisposing and enabling factors to use of health services, while controlling for other variables, for example, measures of need for such services.

The statistical package, STATA Release 5 (Statacorp, 1997), was used to carry out both the simple and multiple logistic regressions and to provide point

estimates of odds ratios using the global weights provided with each record. Standard errors used to calculate 95% confidence intervals were derived by applying each of the 30 jackknife weights in turn to provide 30 estimates of the odds ratio for that measure. The final estimate of standard error was then calculated using the formula provided by the Australian Bureau of Statistics in its Technical Paper (1999):

$$SE_{final} = \sqrt{(29/30 \sum_{K=1}^{30} (\Theta_K - \Theta_G)^2)}$$

where:

SE_{final} is the final standard error for the logarithm of the odds ratio;

Θ_G is the logarithm of the odds ratio calculated using the global weight on the full sample; and

Θ_K is the logarithm of odds ratio calculated omitting the kth replicate group

Results

Of the 10,641 survey respondents, 1,329 reported that they obtained some mental health help during the past 12 months. When the global weights were applied, it was estimated that 11.1% of the population obtained some mental health help over that period. Means for each of the 21 need, predisposing and enabling predictor variables were then calculated for the weighted population as a whole and for the two subsets of the population; those who obtained any mental health services during the 12 months preceding the survey and those who did not use any mental health services. These are given in Table 6. For 19 of the 21 predictor variables examined, there were significant differences ($p<0.05$) between those who used mental health services and those who did not obtain such care. The subset of those obtaining mental health help were more likely to be female, living alone and either separated or divorced. This subset of the population was also less likely to live in rural or remote areas or to have a usual language that was not English, and more

Table 6: Mean or median scores of need, predisposing and enabling predictor variables for the total population and for the subsets of the population who obtained and did not obtain any mental health help.

Variable:	Measure:	for: the total population (N=10,641)	for: those who obtained: any mental health help (N = 1,329) (a)	for: those who obtained: no mental health help (N=9,312) (b)	Pooled standard deviation for (a) and (b)
Predisposing:					
Age	Median age range	40-44 years	40-44 years	40-44 years	
Sex (female)	% female	50.8	64.0	49.1	0.50
Higher education	Percentage	56.0	56.9	55.9	0.49
Living alone	Percentage	11.7	13.4	11.5	0.34
Separated	Percentage	2.9	6.7	2.4	0.16
Divorced	Percentage	5.2	9.6	4.7	0.22
Enabling:					
Rural	Percentage	12.0	12.2	12.0	0.33
Remote	Percentage	15.3	11.7	15.8	0.36
Usual language not English	Percentage	6.8	4.9	7.0	0.25
Government assistance	Percentage	28.2	3.3	2.8	0.45
Unemployed	Percentage	4.2	5.7	4.0	0.20
Need:					
CIDI affective disorder	Percentage	7.3	40.4	3.2	0.23
CIDI anxiety disorder	Percentage	9.5	39.2	5.8	0.28
CIDI substance abuse	Percentage	7.6	19.7	6.1	0.26
Self-identified depression	Percentage	2.9	18.3	1.0	0.16
Self-identified anxiety	Percentage	9.4	27.3	7.1	0.25
Self-identified substance abuse	Percentage	1.2	2.1	1.1	0.11
GHQ score	Mean Score	0.93	2.6	0.7	1.84
EPQ-R Neuroticism score	Mean Score	2.60	5.0	2.3	2.46
Days out of role	Mean Score	1.86	3.9	1.6	5.77
Number of physical conditions	Mean Score	0.63	0.8	0.6	1.00

likely to be unemployed or on some form of government assistance. They also had greater health care needs, as measured by their scores on each of the 10 need-related variables included in the analyses. Table 7 gives the percentages of those with a CIDI diagnosed mental disorder or a self-identified mental health problem who reported having obtained mental health help from any health professional and from each of the four categories of health professionals, general practitioners, psychiatrists, psychologists and other health professionals. Two-thirds of those who self-identified as having depression reported that they had seen a health professional about mental health problems in the past 12 months, with almost 80 % of this group who obtained any help, having seen a general practitioner concerning such problems. Smaller percentages of those with self-identified or clinically diagnosed anxiety reported receiving formal health services, while those with substance abuse problems, either self-identified or clinically diagnosed, were least likely to report having used such services for mental health reasons. Simple and simultaneous

Table 7: Percentage of those with CIDI diagnosed mental disorder or self-identified mental health problem to report using formal health services; by type of disorder and category of health professional

Respondents' mental health status	Percentage using for mental health reasons:				
	GPs	Psychiatrists	Psychologists	Other health professionals	Any health professional
Self-diagnosed*					
Depression	52.3	13.4	13.1	22.5	66.5
Anxiety	24.0	7.2	5.3	12.1	31.6
Substance abuse	13.1	5.2	1.5	10.9	18.7
CIDI-diagnosed*					
Affective disorder	49.1	12.2	11.8	21.3	60.4
Anxiety disorder	36.6	10.0	8.7	15.9	45.2
Substance abuse disorder	20.6	5.3	5.4	12.5	27.9
All respondents	8.2	1.8	1.5	3.6	10.8

* Respondents could identify as having only one self-diagnosed mental health problem but could be given multiple CIDI-diagnosed disorders.

multiple regressions were then undertaken using the 21 predictor variables measuring need, predisposing and enabling factors. Both types of regressions were undertaken for each of the five dependent variables: obtaining any mental health help and obtaining such help from general practitioners, psychiatrists, psychologists and other health professionals. The results of these analyses are given in Tables 8 to 12.

Associations common to all types of service providers

Some of the results from these logistic regression analyses were found to apply for each of the five categories of mental health services. Findings from the simple logistic regressions identified particular strata of respondents who were more likely to have obtained mental health care. Seven of these strata identified individuals by their need for such help: having CIDI diagnosed affective disorder, anxiety disorder or substance abuse disorder; self-identifying as having depression or anxiety, having a higher GHQ score and having a higher EPQ-R Neuroticism score. Those respondents who were younger or were separated were also more likely to obtain mental health help from each category of service provider. Common findings from the simultaneous multiple logistic regressions related only to factors that measured need for mental health help, with two predictor variables being significantly associated with obtaining services: having a CIDI diagnosed affective disorder or anxiety disorder. Various other results were found to hold only for subsets of service providers and these are covered in the remainder of this section.

Any mental health services

Using simple logistic regression analysis, two enabling predictor variables and two further predisposing variables were significantly and positively associated with obtaining any mental health services. These were respectively: having government income assistance, being unemployed, being female and being divorced.

Two additional variables measuring need for such help were also so associated: the number of days out of role as a result of illness in the last month and the number of physical conditions. Using simultaneous multiple logistic regression, no enabling variables but three predisposing variables were positively associated with use of any mental health help: being female, having or undertaking higher education and being separated. In addition, five other measures of need for mental health services were associated with using mental health services: having a CIDI diagnosed substance abuse disorder, self-identifying as having depression or anxiety, and having a higher GHQ or EPQ-R Neuroticism score. These results are given in Table 8.

General practitioner services

As seen in Table 7, over 75% of those who reported having obtained mental health help, received help from a general practitioner. It is not surprising then, that the results of the logistic regression analyses relating to obtaining any mental health help, given in the previous section, should correspond closely with those concerning general practitioner services. The simple logistic regression results indicated that obtaining general practitioner services was associated with two predisposing variables: being female and being divorced. Two enabling variables were also so associated: having a usual language that was not English and receiving government assistance. Predictor variables measuring need factors that were found to be associated with use of general practitioners' services were again the number of days out of role as a result of illness in the last month and the number of physical conditions (Table 9).

From the simultaneous multiple logistic regression, no enabling variables and two predisposing variables were associated with obtaining mental health help from a general practitioner: being female and being separated. The five measures of

Table 8: Odds ratios for associations between predisposing, enabling and need factors and reporting mental health related visits to ANY HEALTH PRACTITIONER.		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (in 5 year age groups)	0.95 (0.92 – 0.97)*	0.99 (0.96 – 1.03)
Sex (female)	1.83 (1.26 – 2.64)*	1.61 (1.09 – 2.39)*
Higher education	1.05 (0.94 – 1.20)	1.28 (1.08 – 1.52)*
Living alone	1.19 (0.96 – 1.49)	0.85 (0.58 – 1.27)
Separated	3.04 (2.25 – 4.13)*	2.04 (1.15 – 3.64)*
Divorced	2.20 (1.76 – 2.74)*	1.93 (0.99 – 3.75)
Enabling:		
Rural	1.03 (0.85 – 1.25)	0.86 (0.65 – 1.13)
Remote	0.71 (0.49 – 1.04)	0.74 (0.38 – 1.43)
Usual language not English	0.70 (0.40 – 1.20)	0.62 (0.27 - 1.42)
Government assistance	1.35 (1.06 – 1.72)*	0.99 (0.70 – 1.38)
Unemployed	1.49 (1.06 – 2.08)*	0.79 (0.46 – 1.34)
Need:		
CIDI affective disorder	20.56 (16.33 – 25.90)*	5.24 (3.19 – 8.60)*
CIDI anxiety disorder	10.64 (8.74 – 12.95)*	2.61 (2.03 – 3.36)*
CIDI substance abuse disorder	3.72 (3.14 – 4.40)*	1.94 (1.44 – 2.60)*
Self-identified depression	19.79 (15.48 – 25.30)*	2.65 (1.53 – 4.60)*
Self-identified anxiety	4.91 (4.06 – 5.95)*	1.81 (1.42 – 2.31)*
Self-identified substance abuse	1.91 (0.90 – 4.04)	0.92 (0.30 – 2.85)
GHQ score	1.38 (1.35 – 1.41)*	1.11 (1.04 – 1.18)*
EPQ-R Neuroticism score	1.40 (1.36 – 1.45)*	1.15 (1.07 – 1.22)*
Days out of role	1.05 (1.03 – 1.07)*	1.01 (1.00 – 1.03)
Number of physical conditions	1.20 (1.07 – 1.34)*	1.05 (0.92 – 1.20)

* $p < 0.05$

need for mental health services found to be associated with using any mental health services also applied to obtaining such help from a general practitioner: having CIDI diagnosed substance abuse disorder, self-identifying as having depression or anxiety and having a higher GHQ or EPQ-R Neuroticism score.

Table 9: Odds ratios for associations between predisposing, enabling and need factors and reporting mental health related visits to a GENERAL PRACTITIONER.		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (in 5 year age groups)	0.97 (0.95 - 0.99)*	1.02 (0.99 - 1.06)
Sex (female)	1.89 (1.24 - 2.90)*	1.61 (1.02 - 2.54)*
Higher education	0.89 (0.77 - 1.01)	1.05 (0.88 - 1.23)
Living alone	1.19 (0.98 - 1.43)	0.78 (0.58 - 1.06)
Separated	2.91 (2.20 - 3.86)*	1.78 (1.16 - 2.74)*
Divorced	2.09 (1.57 - 2.80)*	1.69 (0.76 - 3.77)
Enabling:		
Rural	1.14 (0.92 - 1.40)	0.97 (0.73 - 1.29)
Remote	0.79 (0.49 - 1.27)	0.83 (0.38 - 1.78)
Usual language not English	0.57 (0.33 - 0.97)*	0.51 (0.25 - 1.02)
Government assistance	1.39 (1.03 - 1.87)*	0.91 (0.63 - 1.31)
Unemployed	1.42 (0.88 - 2.28)	0.82 (0.39 - 1.76)
Need:		
CIDI affective disorder	18.40 (14.45 - 23.43)*	5.16 (3.59 - 7.42)*
CIDI anxiety disorder	10.45 (8.69 - 12.57)*	2.64 (2.00 - 3.48)*
CIDI substance abuse disorder	3.35 (2.76 - 4.07)*	1.68 (1.26 - 2.25)*
Self-identified depression	14.80 (10.84 - 20.22)*	1.97 (1.21 - 3.22)*
Self-identified anxiety	4.48 (3.68 - 5.46)*	1.63 (1.26 - 2.10)*
Self-identified substance abuse	1.70 (0.65 - 4.43)	0.89 (0.22 - 3.54)
GHQ score	1.35 (1.30 - 1.39)*	1.08 (1.01 - 1.15)*
EPQ-R Neuroticism score	1.40 (1.34 - 1.45)*	1.14 (1.06 - 1.23)*
Days out of role	1.04 (1.02 - 1.07)*	1.01 (0.99 - 1.02)
Number of physical conditions	1.25 (1.10 - 1.43)*	1.08 (0.92 - 1.26)

* $p < 0.05$

Psychiatrist services

Three additional predictor variables measuring need factors were found to be significantly associated with use of psychiatrists' services when simple logistic regression was undertaken (Table 10). These were: self-identifying as having substance abuse problems, number of days spent out of role in the past month due to health problems and number of physical conditions. One further predisposing

Table 10: Odds ratios for associations between predisposing, enabling and need factors and reporting mental health related visits to a PSYCHIATRIST.		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (in 5 year age groups)	0.95 (0.91 - 0.99)*	0.97 (0.91 - 1.04)
Sex (female)	1.23 (0.88 - 1.73)	0.85 (0.55 - 1.31)
Higher education	1.10 (0.83 - 1.45)	1.41 (1.04 - 1.91)*
Living alone	1.45 (0.99 - 2.11)	0.98 (0.65 - 1.49)
Separated	3.04 (1.84 - 5.01)*	1.30 (0.71 - 2.38)
Divorced	2.04 (1.11 - 3.77)*	1.33 (0.70 - 2.54)
Enabling:		
Rural	0.82 (0.51 - 1.31)	0.56 (0.34 - 0.93)*
Remote	0.50 (0.27 - 0.94)	0.46 (0.24 - 0.89)*
Usual language not English	0.30 (0.04 - 2.15)	0.25 (0.03 - 2.22)
Government assistance	1.77 (1.26 - 2.49)*	1.38 (0.90 - 2.13)
Unemployed	1.19 (0.51 - 2.80)	0.51 (0.18 - 1.41)
Need:		
CIDI affective disorder	14.20 (9.98 – 20.21)*	2.81 (1.55 - 5.11)*
CIDI anxiety disorder	11.76 (7.39 – 18.74)*	2.25 (1.33 - 3.83)*
CIDI substance abuse disorder	3.63 (2.37 - 5.56)*	1.05 (0.65 - 1.70)
Self-identified depression	10.50 (6.98 – 15.79)*	2.57 (1.22 - 5.41)*
Self-identified anxiety	6.16 (4.37 - 8.68)*	2.69 (1.72 - 4.22)*
Self-identified substance abuse	3.09 (1.34 - 7.15)*	2.29 (0.80 - 6.61)
GHQ score	1.32 (1.27 - 1.37)*	1.01 (0.93 - 1.10)
EPQ-R Neuroticism score	1.46 (1.40 - 1.53)*	1.20 (1.11 - 1.28)*
Days out of role	1.06 (1.03 - 1.09)*	1.04 (1.00 - 1.07)
Number of physical conditions	1.27 (1.09 - 1.47)*	1.05 (0.89 - 1.25)

* $p < 0.05$

measure and one enabling variable were also significantly associated with using such services: being divorced and receiving government assistance, as shown in Table 10.

Using simultaneous multiple logistic regression, three more need-related variables, self-identifying as having depression or anxiety, and having a higher EPQ-R Neuroticism score were associated with using psychiatrist services while one predisposing variable, having or undertaking higher education, was also so

associated. Australians living in rural and remote areas were less likely to have reported obtaining such care.

Psychologist services

Simple logistic regression analysis indicated that one further measure of need, reporting days out of role due to illness was positively associated with obtaining services from a psychologist. As seen in Table 11, three predisposing

Table 11: Odds ratios for associations between predisposing, enabling and need factors and reporting mental health related visits to a PSYCHOLOGIST.

Predictor variable	Odds ratios and 95% confidence intervals for: Simple regression:	Multiple regression:
Predisposing:		
Age (in 5 year age groups)	0.88 (0.85 - 0.92)*	0.92 (0.85 – 0.99)*
Sex (female)	1.77 (1.20 - 2.61)*	1.46 (0.91 – 2.34)
Higher education	1.56 (1.04 - 2.34)*	1.75 (0.99 – 3.12)
Living alone	1.61 (1.16 - 2.23)*	1.29 (0.79 – 2.12)
Separated	4.51 (1.82 - 11.18)*	2.17 (0.73 – 6.42)
Divorced	1.66 (0.86 - 3.20)	1.19 (0.57 – 2.46)
Enabling:		
Rural	1.12 (0.55 - 2.31)	0.95 (0.50 – 1.82)
Remote	0.42 (0.22 - 0.82)*	0.49 (0.28 – 0.85)*
Usual language not English	0.57 (0.09 - 3.76)	0.55 (0.06 - 4.75)
Government assistance	0.97 (0.53 - 1.79)	0.70 (0.29 – 1.71)
Unemployed	1.32 (0.56 - 3.07)	0.61 (0.26 – 1.46)
Need:		
CIDI affective disorder	18.87 (13.98 - 25.46)*	4.75 (2.90 – 7.78)*
CIDI anxiety disorder	12.59 (9.39 - 16.90)*	2.99 (2.00 – 4.46)*
CIDI substance abuse disorder	4.69 (3.15 - 7.00)*	1.75 (1.02 – 3.01)*
Self-identified depression	12.90 (8.18 - 20.33)*	1.71 (0.87 – 3.35)
Self-identified anxiety	4.90 (3.26 - 7.34)*	1.60 (0.94 – 2.70)
Self-identified substance abuse	0.97 (0.29 - 3.22)	0.38 (0.10 – 1.45)
GHQ score	1.35 (1.29 - 1.42)*	1.07 (1.01 – 1.13)*
EPQ-R Neuroticism score	1.38 (1.29 - 1.46)*	1.07 (0.99 – 1.16)
Days out of role	1.04 (1.02 - 1.06)*	1.02 (0.99 – 1.05)
Number of physical conditions	1.05 (0.82 - 1.35)	0.95 (0.72 – 1.26)

* $p < 0.05$

variables, being female, having or undertaking tertiary education, and living alone, were also found to be significantly associated with obtaining mental health help from this category of health professional. Australians living in remote areas were less likely to have obtained such services. The simultaneous multiple regression analysis identified an enabling variable to be associated with using psychologist services; those living in remote areas were less likely to have used such services. Younger respondents were more likely to have obtained mental health help from a psychologist. A second multiple logistic regression analysis was then undertaken to obtain odds ratios for using psychologists' services with each five-year age group included separately. This analysis confirmed that this association decreased as the age of respondents increased. Two other variables measuring need factors were also found to be significantly associated with obtaining these services: having CIDI diagnosed substance abuse disorder and a higher GHQ score.

Services from other health professionals

Using simple logistic regression, two additional predictor variables measuring need were found to be associated with obtaining mental health help from other health professionals: self-identifying as having a substance abuse problem, and having days spent out of role as a result of health problems (Table 12). Two additional predisposing variables and two enabling variables were also significantly associated with use of such services: being female, being divorced, on government assistance or unemployed.

Multiple logistic regression analysis identified five more need-related factors as associated with obtaining such care: being clinically diagnosed as having substance abuse disorder, self-identifying as having depression or anxiety, and having a higher GHQ or EPQ-R Neuroticism score. A total of five predictor variables measuring predisposing attributes were also associated with using services

from other health professionals: being younger, being female, having or undertaking higher education, and being separated or divorced. Again, additional analysis confirmed that odds ratios for having seen other health practitioners declined linearly as age of respondent increased.

Table 12: Odds ratios for associations between predisposing, enabling and need factors and reporting mental health related visits to OTHER HEALTH PROFESSIONALS.

Predictor variable	Odds ratios and 95% confidence intervals for:	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.87 (0.84 – 0.91)*	0.89 (0.85 – 0.93)*
Sex (female)	1.77 (1.33 – 2.36)*	1.55 (1.27 – 1.89)*
Higher education	1.21 (0.95 – 1.54)	1.39 (1.03 – 1.89)*
Living alone	1.33 (1.00 – 1.76)	1.17 (0.82 – 1.65)
Separated	3.74 (2.70 – 5.18)*	2.04 (1.27 – 3.26)*
Divorced	2.20 (1.54 – 3.15)*	1.92 (1.18 – 3.12)*
Enabling:		
Rural	1.23 (0.84 – 1.82)	1.10 (0.71 – 1.72)
Remote	0.75 (0.42 – 1.33)	0.94 (0.45 – 1.98)
Usual language not English	0.70 (0.27 – 1.81)	0.73 (0.27 – 2.00)
Government assistance	1.65 (1.26 – 2.16)*	1.32 (0.99 – 1.75)
Unemployed	2.79 (1.41 – 5.54)*	1.29 (0.57 – 2.94)
Need:		
CIDI affective disorder	12.04 (9.31 – 15.58)*	3.01 (1.86 – 4.89)*
CIDI anxiety disorder	8.08 (6.75 – 9.68)*	1.69 (1.22 – 2.34)*
CIDI substance abuse disorder	4.84 (3.05 – 7.70)*	1.94 (1.02 – 3.70)*
Self-identified depression	9.29 (6.87 – 12.50)*	2.01 (1.17 – 3.45)*
Self-identified anxiety	4.96 (3.47 – 7.08)*	2.08 (1.29 – 3.70)*
Self-identified substance abuse	3.38 (1.82 – 6.24)*	1.73 (0.76 – 3.94)
GHQ score	1.33 (1.29 – 1.37)*	1.08 (1.02 – 1.14)*
EPQ-R Neuroticism score	1.35 (1.30 – 1.41)*	1.09 (1.02 – 1.17)*
Days out of role	1.04 (1.02 – 1.06)*	1.01 (0.99 – 1.03)
Number of physical conditions	1.12 (0.97 – 1.29)	1.05 (0.88 – 1.24)

* $p < 0.05$

Discussion

The analyses reported in this chapter sought to identify whether the primary factor associated with Australians' obtaining mental health services was their needing such care and whether, after controlling for need-related factors, such services were more likely to be obtained by those predisposed or enabled to use such care. The analyses undertaken in order to answer these questions included both simple and simultaneous multiple logistic regressions. Various conclusions can be drawn from these analyses. Firstly, levels of service utilisation given in Table 7 indicate that two-thirds of those who self-identified as having depression had obtained some form of mental health care from the formal system in the past year while a slightly smaller percentage with CIDI diagnosed affective disorder had used formal services. The corresponding figure for those with CIDI diagnosed anxiety disorder was approximately 45%. These percentages rate well against equivalent measures reported in other countries. Leaf and coauthors (1988), for example, found that less than 20% of those who participated in a community survey in the United States and who met criteria for diagnosis of mental disorder in the past six months had obtained mental health help.

Dew et al (1991) reporting on mental health service utilisation by a white-collar population, also in the United States, found that no more than one-third of those who reported symptoms of depression over a 12-month period obtained formal help when their problems were worst. Similar findings concerning low levels of service use for mental health problems have also been reported from other US-based studies undertaken by Shapiro et al (1984) and Howard et al (1996).

Need factors related to use of mental health services

From the perspective of the Andersen model, the common finding from all analyses is that, compared with predisposing and enabling measures, predictor

variables measuring need are more often, and more strongly, associated with use of health services for mental health reasons. Further, while the results of simple logistic regressions identified various predisposing and enabling variables as associated with use of mental health services, the multiple logistic regression presented a quite different picture. The odds of those with CIDI diagnosed affective disorder using any mental health services were over five times greater than for those without that diagnosis. Similarly, after controlling for predisposing and enabling measures, those meeting criteria for CIDI diagnosed anxiety disorder had over two and a half times the odds of consulting any health practitioner about mental health problems, compared with those not meeting these criteria. The conclusion to be drawn from these analyses is that the main predictors of individuals having used mental health services are their having CIDI diagnosed mental disorders or self-identifying as having mental health problems. This being the case, what impact do predisposing and enabling variables have on the individual's preparedness and ability to obtain mental health care?

Predisposing factors

Predisposing factors are those sociodemographic variables that have been found to be associated with personal factors that can affect access to health care: health awareness, health expectations, health knowledge, propensity to adopt the illness role and help-seeking behaviour. In our analyses six measures of these personal factors were considered: sex, age, marital status, level of education, whether separated or divorced, and whether living alone, the last taken as a measure of psychosocial support. From the simple logistic regression analyses, each of these variables was found to be associated with receiving mental health help from at least one category of health practitioner while those receiving any mental health help were more likely to be younger, female, separated or divorced. From the multiple

regression analyses, three of these predictor variables were found to be significantly, positively associated with making mental health visits to any health practitioner: being female, being separated, and having a higher education.

The propensity of females to use formal services has already been noted in the first chapter. It has been hypothesised that this propensity may relate to females having better health awareness (Schroll et al, 1991; Vingerhoets and Van Heck, 1990), or their increased likelihood of adopting the help-seeking role (Leaf and Bruce, 1987; Tudiver and Talbot, 1999). In the present study, being female was significantly associated with use of services provided by general practitioners and the category of other health professionals but not with care provided by psychiatrists or psychologists. After controlling for need factors, the odds of women using general practitioner services for mental health reasons were 1.6 times greater than for men. Leaf and Bruce (1987), in the United States, similarly found women to be more likely to consult general practitioners but not psychiatrists or psychologists and noted that gender differences in utilisation were accounted for by differing attitudes towards such care, and not by gender *per se*.

Being separated was significantly associated with use of any mental health service, as well as those provided by general practitioners and other health professionals, but not by psychologists or psychiatrists. This result is compatible with findings noted in the first chapter that formal help for mental health problems may be more likely to be sought when the individual is subjected to additional stressful experiences, such as that which might result from relationship breakdown (Galbaud et al, 1999; Zola, 1973). It may also be that those dealing with this type of significant life event obtain sufficient counseling from general practitioners without needing specialist mental health care.

Finally, having or undertaking higher education had quite different effects across type of service provider. Those with higher education were not significantly more likely to use general practitioner services for mental health reasons but were more likely to use psychiatrists, psychologists and other health professionals. In the context of personal factors, these findings may indicate that those with higher education have better self-awareness of their health or better health knowledge including information about the types of health services that may be available to assist them with their problems (Hourani and Khlat, 1986). This subgroup is also more likely to believe that psychological interventions will be helpful (Jorm et al, 1997).

Enabling factors

The findings of these analyses indicate that enabling factors, measuring the availability, affordability and cultural appropriateness of mental health services, do have an impact on Australians' abilities to obtain formal mental health care. The simple logistic regressions indicated that respondents receiving government assistance were more likely to receive mental health help from general practitioners, psychiatrists and other health practitioners. After controlling for need factors, however, these associations became not significant, indicating that this subset of respondents was also more likely to need such help. From the multiple logistic regressions, those in rural locations were less likely to have obtained psychiatric services while Australians in more remote areas were less likely to have obtained psychiatric or psychological services. These findings are to be expected, and reflect the difficulties experienced by those living in rural and remote Australia when they attempt to obtain any specialist health care (National Rural Health Policy Forum, 1999). More significantly, however, when the analysis controlled for need for care, no other enabling variables were found to be associated with obtaining mental health

services. For three-quarters of those who reported obtaining mental health help, that care was provided by a general practitioner (Table 6). No enabling variables were found to be associated with receiving this type of help. Living in a rural or remote location, having a usual language other than English, being unemployed, and being on government pension, allowance or benefit, were **not** significantly associated with utilisation of general practitioner-provided mental health services. It could be reasonably concluded that these services are available to, affordable and culturally appropriate for most Australians.

Conclusions

Overall, the major finding of this Andersen-based analysis is that the factors most strongly related to Australians using mental health services are their needing such help. This should be seen as a heartening result for those funding and providing Australia's mental health services given that these are the sub-sets of the community to whom such services are primarily targeted. However, as discussed in Chapter Two, utilisation of mental health services is only one component of access to health care. Further dimensions of access including the types of assistance provided to those obtaining care and the extent to which individuals report unmet need for mental health help, should also be considered. Analyses addressing these two topics are presented in the following chapters.

Chapter Four:
Need, predisposing, enabling and health practitioner factors associated with Australians receiving different types of assistance for their mental health problems

Chapter Four Abstract

This chapter reports on findings from further analyses of data from the National Survey of Mental Health and Well-being. These analyses, again based on the Andersen behavioural model, examined the extent to which variables measuring need, predisposing, enabling and health practitioner factors were associated with Australians obtaining particular forms of assistance for their mental health problems. Simple and multiple logistic regressions were undertaken to identify which of 25 predictor variables were associated with Australians reporting that they obtained each of five types of mental health assistance: information, medication, psychological therapy, practical help and self-care help.

Medication and psychological therapy were the most commonly provided forms of help with over 50% of respondents reporting that they had obtained these forms of assistance. In comparison, one-quarter of respondents had obtained information about mental health problems and available treatments. After controlling for need, the predisposing variable, age of respondent, was found to be significantly associated with receiving two forms of assistance. Younger people were more likely to have obtained information, whereas older respondents reported receiving more medication. Variables indicating the categories of health practitioner who provided services were also found to be associated with receiving particular types of assistance. Having seen a psychiatrist was associated with receiving four types of assistance: information, medication, psychological

therapy and self-care help. Obtaining mental health help from a general practitioner, however, was negatively associated with obtaining practical help.

The conclusions to be drawn from these findings are that, while few predisposing and enabling variables affect the types of assistance obtained for mental health problems, those in older age groups are not provided the range of mental health treatments provided younger people who present with similar problems.

Introduction

The analyses of access to mental health services reported in the previous chapter related to two measures of health care utilisation - whether or not mental health services were obtained and the categories of health professionals providing those services. These measures provided no information about the types of assistance obtained by individuals who received help for their mental health problems. This component of health care delivery was included by Andersen and his collaborators in a later version of their model (Aday and Andersen, 1974).

This chapter moves from the issue of *who obtains mental health help and from whom* to explore the question: *what types of assistance were provided to those who received mental health services?* This question, reworded to fit the Andersen behavioural model, becomes: *To what extent are need, enabling and predisposing variables associated with Australians reporting that they have received particular types of assistance for their mental health problems?*

The hypotheses that will be tested in this chapter are that, in Australia:

- **only needs-based factors are associated with the types of assistance individuals receive when they obtain formal mental health care. After controlling for need, no personal or health-system factors are associated with the types of assistance so provided.**

Again, these hypotheses will be tested by analysing data from the National Survey of Mental Health and Well-being.

The next section briefly explores factors that might affect the types of assistance obtained by those who receive mental health services and describes the findings of similarly directed analyses previously reported in the literature. The remainder of the chapter describes the methodology and statistical techniques used in the analyses reported in this chapter, summarises the results of those analyses, and finally, considers how these findings inform the discussion on the extent to which Australians have equal access to needs-based mental health care.

Types of mental health assistance

An individual who seeks help from the formal health care system for mental health problems could receive various types of assistance. Such assistance could include provision of information about mental health problems and their treatment, medication, counselling or psychotherapy, practical help to address various problems that can arise in the home, social and work environments and assistance with caring for oneself or one's home. In the context of the Andersen behavioural model, the offering of each type of assistance may be influenced by various need, predisposing and enabling variables relating to the individual. The help provided could also be expected to be influenced by factors relating to the health practitioner and to the interaction occurring between these two players in the setting of the health care consultation.

Factors relating to the individual that could affect types of assistance provided

Need factors

The kinds of assistance obtained by individuals will be affected by the categories of mental health problems they are experiencing and the severity of those problems. For example, medication may be less appropriate for those with substance abuse problems but is likely to be the treatment of choice for those with severe depression (Mulrow et al, 1998). Those with mild depression may have their needs best addressed if they receive psychological therapy (Gloagen et al, 1998).

Enabling variables

In the Australian setting, the types of assistance obtained by the individual are likely to be influenced by various enabling variables including measures of income, geographical location and usual language spoken. The individual's disposable income may influence the types of assistance obtained if fees charged for particular forms of treatments are substantial and not reimbursable through Medicare, as is the case with psychology therapy provided by privately practising psychologists. Those in rural and remote locations may have little opportunity to obtain particular types of assistance if the health practitioners providing such care, for example, psychiatrists or psychologists, do not practise in the local region (Jorm et al, 1993). Similarly, the individual seeking help who has little English may be excluded from obtaining psychological therapy and may fail to understand information relating to mental health problems if such assistance is delivered only in English.

Predisposing variables

Predisposing factors including age, sex, level of education, and marital status may also affect the types of assistance provided. Those who are well educated and have good verbal skills may be more likely to request psychological therapy for their

mental health problems (Hourani and Khlat, 1986; Kulka et al, 1979). If, as some studies have found, women are more comfortable with a confiding relationship, they may also prefer this type of assistance (Rickwood and Braithwaite, 1994). Similarly, individuals with few psychosocial resources may seek out types of assistance that offer the possibility of developing a close or supportive relationship (Dew et al, 1991).

Variables that predispose and also enable?

In the context of interactions between the individual and health practitioner, factors that influence health knowledge and health expectations may also operate as enabling variables. The individual who has better knowledge about a mental health problem and its treatments may be able to present that problem more clearly and to make an informed request that particular types of assistance be provided during the treatment process. A variable such as level of education, considered by Andersen to be a predisposing variable, may also operate as an enabling variable. It could be argued that those with better education are likely to take an assertive role in the patient-doctor interaction, express their health problem using medically appropriate terms and have their preferred types of assistance provided (Scheff, 1974).

Various writers have reported findings that support this argument. Waitzkin (1984) found that individuals from higher social classes and those with higher education or better verbal skills are more likely to obtain information, explanations and assistance for their mental health problems (see also Cullberg and Stefansson, 1983). Similarly, Link and Milcarek (1980) found that those who were young, adept at obtaining what they wanted, or who were perceived by the practitioner to be competent or communicative were more likely to obtain their preferred type of treatment, in particular psychological therapy. Those with little understanding of their problems and no previous experience of effective treatment for that problem

may lack the psychological vocabulary to describe their symptoms clearly to the practitioner (McKinlay, 1972; Mechanic, 1986; Waitzkin, 1984). They are also likely to be unaware of the different types of assistance available and the advantages and disadvantages of those different types of treatment. Such individuals are likely to rely entirely on the practitioner to select the appropriate type of care (McKinlay, 1972).

Health-practitioner factors affecting the types of assistance provided

Predisposing, enabling and need factors relating to an individual will influence whether that individual presents at a formal health care setting seeking help for mental health problems. The form of help offered as a result of that presentation, however, must be a product of factors pertaining to both the individual and the health care provider (Eisenberg, 1979; McKinlay et al, 1996). Health practitioner-related factors will include the practitioner's perceptions of the mental health problem being presented. There may be only limited congruence between the practitioner's assessment and the individual's understanding of the mental health problem for which treatment is being sought (McKinlay, 1972). While, as already discussed, individuals may not appreciate that their problems are mental health-related, various researchers have also found that primary medical practitioners often fail to recognise mental health problems in their presenting patients (Andersen and Harthorn, 1989; Munk-Jorgensen et al, 1997).

The health practitioner who has identified symptoms of mental disorder in a patient then needs to select the most appropriate treatment for that condition given the circumstances and needs of this particular patient. In selecting care, health practitioners are likely to be influenced by preferences expressed by the patient. The selection process will also be influenced by the health practitioner's preferences for providing particular forms of treatments both in general and for particular

sub-groups of patients. Such factors would include the potential efficacy of different treatment options, and the practitioner's perceptions concerning the acceptability and affordability of different treatments for this patient. Whether these options are also presented to the patient in a negotiating process is likely to depend on the practitioner's views about the potential value of such a discussion (Eisenberg, 1979; Ong et al, 1995; Waitzkin, 1984). In addition to their health care expertise and their understanding of the needs of the patient before them, health practitioners inevitably bring their own values and attitudes to the consultation (Beisecker et al, 1996; Clark et al, 1991). Link and Milcarek (1980) found, for example, that practitioners were more likely to offer psychological therapy to young, highly educated, and communicative patients, while those who are older or less educated are less likely to be offered individual psychological therapy and more likely to be given less personalised care. Waitzkin (1984) also reported differences in the types of assistance provided to men and women, with women receiving more of the practitioner's time, and being given more explanations about their condition and its treatment. Other writers have argued that the practitioner's perception of the patient's knowledge might also affect the treatment recommended (McKinlay, 1972).

In addition, various external factors can have an impact on the practitioner's choice of treatment. Such factors include the time allocated for this particular episode of care, pressures to maintain a heavily booked appointment schedule (Schattner and Coman, 1998; Winefield and Murrell, 1992), and legal restrictions, for example whether the practitioner is permitted by law to prescribe certain restricted medications.

This chapter's analyses examined data from the National Survey to identify need, predisposing, enabling and health practitioner predictor variables associated

with Australians receiving particular types of assistance for their mental health problems. A search of the peer-reviewed literature failed to locate any previous research that used the Andersen behavioural model to explore this particular topic.

Methodology

Data items

Chapter Two provided information on the population sampled and response rate for the National Survey of Mental Health and Well-being. This section provides details about the specific data items used in the analyses reported in this chapter.

Predictor variables

Twenty-five data items, listed in Table 13, were used as predictor variables in these analyses. They comprised the 21 predisposing, enabling and need variables that were previously described in Table 3 and the four health-practitioner related variables indicating whether or not respondents obtained services from each of

Table 13: Predictor variables measuring need, predisposing, enabling and health practitioner factors used in this chapter's analyses*

Predisposing variables:	*Need variables:*
Age	**CIDI affective disorder**
Sex (female)	**CIDI anxiety disorder**
Higher education	**CIDI substance abuse disorder**
Living alone	**Self-identified depression**
Separated	**Self-identified anxiety**
Divorced	**Self-identified substance abuse**
	GHQ score
Enabling variables:	**EPQ-R Neuroticism score**
Rural	**Days out of role**
Remote	**Number of physical conditions**
Usual language not English	*Health practitioner variables:*
Government assistance	**GP visit**
Unemployed	**Psychiatrist visit**
	Psychologist visit
	Other health professional visit

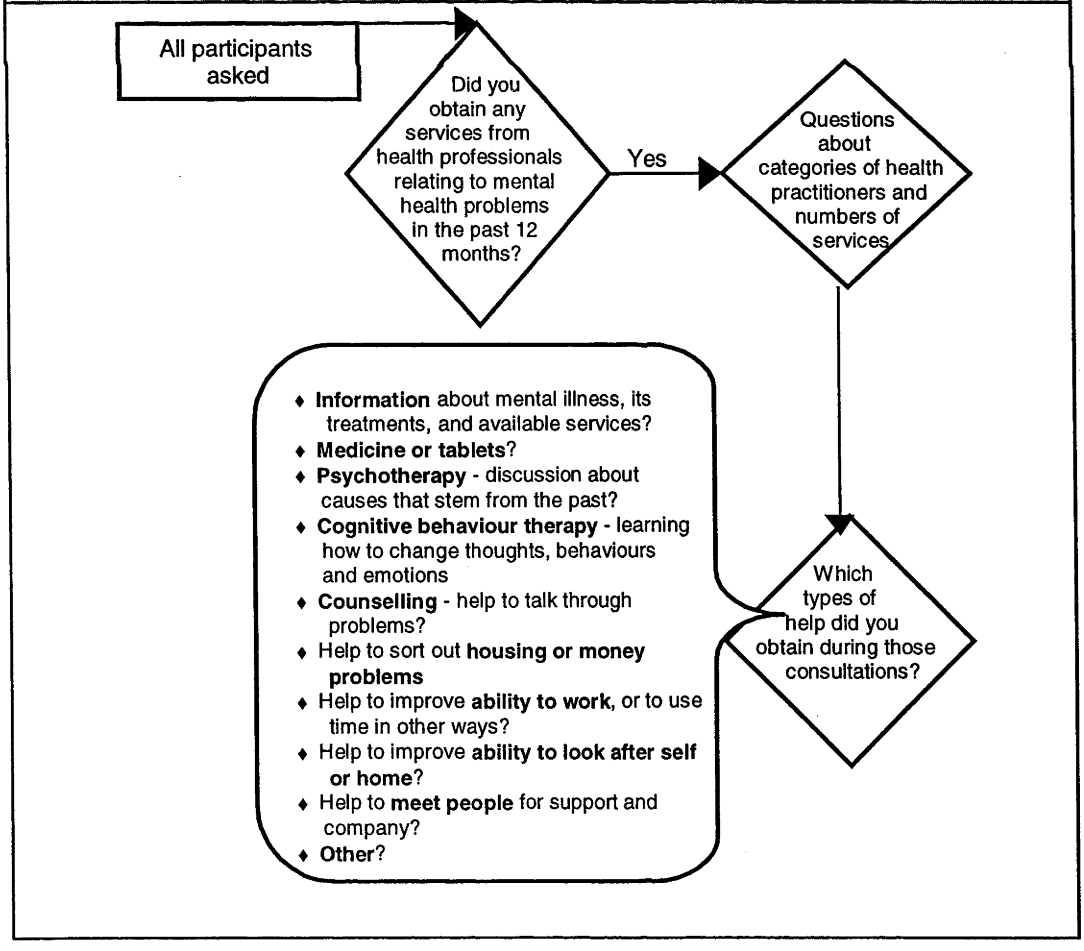
* For descriptions of these variables, see Tables 3 and 4.

general practitioners, psychiatrists, psychologists or other health professionals. Information on these last four variables was given in Table 4 in the previous chapter.

Outcome variables

The outcome variables to be examined in this analysis concern the types of assistance received by National Survey respondents who obtained mental health help in the 12 months prior to the survey. This subset of 1,329 participants who reported obtaining any mental health help during the 12 months preceding the survey were then asked which of 10 possible types of help they were provided for their mental health problems. These ten forms of help are listed in Figure 6. For the analyses reported here, these types of help were grouped into five broad categories of mental health assistance as follows:

Figure 6: Structure of questions concerning types of assistance obtained by those who obtained any mental health help in the past 12 months



- Three forms of assistance, namely information, medicine or tablets, and help to improve ability to look after oneself or one's home were classified as three separate groups of assistance: *information*, *medication*, and *self-care help* respectively.
- Obtaining psychotherapy, cognitive behaviour therapy or counseling were all regrouped as obtaining *psychological therapy.*
- Obtaining help to sort out housing or money problems, or to improve ability to work or to use time in other ways were both reclassified as obtaining *practical help.*

Since the CURF provided no further health-services related information on respondents who reported 'help to meet people for support and company' or 'other' help, data on these types of assistance have not been included in these analyses. Binary outcome variables were then derived which indicated whether or not respondents received each of these five categories of help - information, medication, psychological therapy, practical help and self-care help.

Statistical analyses

Analyses exploring types of assistance provided were similar to those reported in the previous chapter. Descriptive analyses were firstly undertaken to calculate the percentages of respondents who reported receiving each of the five types of mental health assistance. These percentages were obtained for all survey respondents and for the sub-set of respondents who reported obtaining any mental health help.

Using weighted data from the subset of respondents who obtained any mental health help, simple and multiple logistic regressions were then undertaken for each of the five forms of assistance. These analyses identified the level of association between respondents reporting that they had received a particular type of

assistance and each of the 25 predictor variables listed in Table 13 used to measure need, predisposing, enabling and health practitioner factors. From the results of the multiple regressions, it was possible to identify which predisposing, enabling and health practitioner factors were significantly associated with obtaining each type of assistance, after controlling for factors that indicated a need for such help. As previously, odds ratios and 95% confidence intervals around those ratios were calculated for both the simple and multiple regressions, by using the global and replicate weights provided with each record and deriving the standard error of those odds ratios using the formula given in Chapter Three. These analyses were undertaken using the statistical package STATA Release 5 (Statacorp, 1997).

Results

The results of the preliminary analyses, given in Table 14, indicate that the types of assistance most often provided to Australians were medication and psychological therapy. In both cases, over half of those who received any mental health help reported obtaining this form of assistance. About one-quarter of those obtaining mental health care were given information, with smaller proportions again

Table 14: Percentages of all respondents and of those receiving any mental health help who reported receiving different types of assistance

Type of assistance received:	Numbers reporting that they received this type of assistance as a percentage of:	
	all respondents (N=10,641)	those receiving any mental health help (N=1,329)
Any mental health help	11.1%	100.0%
Information	2.8%	25.1%
Medication	6.2%	55.9%
Psychological therapy	6.1%	55.1%
Practical help	1.2%	10.6%
Self-care help	0.7%	6.6%

obtaining either practical help or help with self-care. The simple and multiple regression analyses were then undertaken. The results of these analyses are given in Tables 15 to 20.

Obtaining information

As seen in Table 15, with simple logistic regression, one predisposing predictor variable, being younger, was found to be significantly associated with receiving information about mental illness and its treatments. Four need-related variables were also associated with receiving this type of assistance: having CIDI diagnosed affective or anxiety disorders, self-identifying as having depression and having a higher EPQ-R Neuroticism score. Receiving information was significantly associated with obtaining mental health help from general practitioners, psychiatrists and psychologists, but not with receiving help from other health professionals.

In the multiple logistic regression, only the predisposing variable, being younger, remained significantly associated with obtaining information. Three health practitioner variables were found to be significantly associated with receiving information: seeing a general practitioner, psychiatrist or psychologist. Of course, these predictor variables are not mutually exclusive. Indeed, those seeing a psychiatrist would usually be required to obtain a referral for that consultation from a general practitioner.

Analyses were then undertaken to explore two of these findings in more detail. The association between age group of respondent and receiving information was calculated for each of the 13 age groups. As seen in Table 16, relative to younger consumers, the odds of receiving information for those in older age groups generally declined.

Table 15: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and receiving INFORMATION when obtaining mental health care		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.92 (0.85 - 0.99)*	0.90 (0.82 - 0.99)*
Sex (female)	0.83 (0.57 - 1.21)	0.76 (0.48 - 1.22)
Higher education	1.17 (0.82 - 1.68).	1.21 (0.82 - 1.78)
Living alone	0.96 (0.67 - 1.40)	0.77 (0.48 - 1.22)
Separated	1.37 (0.92 - 2.03)	0.99 (0.60 - 1.64)
Divorced	1.01 (0.67 - 1.52)	1.10 (0.67 - 1.81)
Enabling:		
Rural	0.97 (0.60 - 1.58)	0.84 (0.46 - 1.54)
Remote	0.93 (0.67 - 1.29)	1.03 (0.70 - 1.52)
Usual language not English	0.61 (0.25 - 1.51)	0.83 (0.31 - 2.20)
Government assistance	1.24 (0.87 - 1.77)	1.31 (0.87 - 1.98)
Unemployed	0.91 (0.42 - 1.99)	0.59 (0.24 - 1.48)
Health practitioner:		
GP visit	1.63 (1.17 - 2.27)*	2.33 (1.65 - 3.28)*
Psychiatrist visit	4.74 (3.17 - 7.09)*	4.76 (2.97 - 7.62)*
Psychologist visit	2.70 (1.75 - 4.18)*	2.51 (1.47 - 4.28)*
Other health professional visit	1.27 (0.89 - 1.80)	1.27 (0.83 - 1.95)
Need:		
CIDI affective disorder	2.11 (1.52 - 2.94)*	1.30 (0.78 - 2.17)
CIDI anxiety disorder	2.38 (1.64 - 3.45)*	1.62 (0.97 - 2.70)
CIDI substance abuse disorder	1.41 (0.88 - 2.25)	0.92 (0.60 - 1.40)
Self-identified depression	2.07 (1.30 - 3.29)*	1.71 (0.96 - 3.04)
Self-identified anxiety	1.30 (0.71 - 2.36)	1.10 (0.47 - 2.55)
Self-identified substance abuse	1.95 (0.62 - 6.12)	1.62 (0.34 - 7.74)
GHQ score	1.04 (0.99 - 1.10)	0.97 (0.91 - 1.05)
EPQ-R Neuroticism score	1.13 (1.05 - 1.22)*	1.05 (0.92 - 1.19)
Days out of role	1.01 (0.98 - 1.04)	0.99 (0.96 - 1.03)
Number of physical conditions	1.00 (0.83 - 1.20)	1.01 (0.85 - 1.21)

* $p < 0.05$

Further analysis was also undertaken to examine associations between obtaining information and seeing various combinations of health practitioners. As seen in Figure 7, only 17% of those respondents who saw only a general practitioner obtained information on mental health problems. A smaller percentage still of those

who obtained help only from other health practitioners received such assistance. Respondents were most likely to receive information if the combination of health practitioners from whom they obtained help included a psychiatrist (Table 17).

Table 16: Odds ratios associated with obtaining different types of mental health help by age group of consumer, relative to those aged 18-19 years

Age group	Number of consumers in age group	Odds ratios for receiving:				
		Information	Medication	Psychological therapy	Practical help	Self-care help
20-24	97	0.71	0.75	1.86	2.19	0.65
25-29	154	0.61	0.73	1.08	1.32	1.57
30-34	160	0.55	1.12	2.01	0.85	1.30
35-39	203	0.71	0.91	1.83	1.27	0.87
40-44	190	0.69	0.92	0.97	0.89	0.64
45-49	150	0.32	0.71	1.47	1.02	0.57
50-54	137	0.52	1.32	1.08	0.69	1.11
55-59	78	0.35	1.73	1.07	1.39	1.02
60-64	52	0.31	1.03	1.73	0.79	2.23
65-69	34	0.26	3.64	0.41	(1)	0.07
70-74	27	0.59	2.10	0.73	0.96	1.43
75 and over	24	0.06*	2.05	0.48	0.44	2.18

Notes: Enabling, need, health practitioner and other predisposing variables included in analyses but not shown in this table.

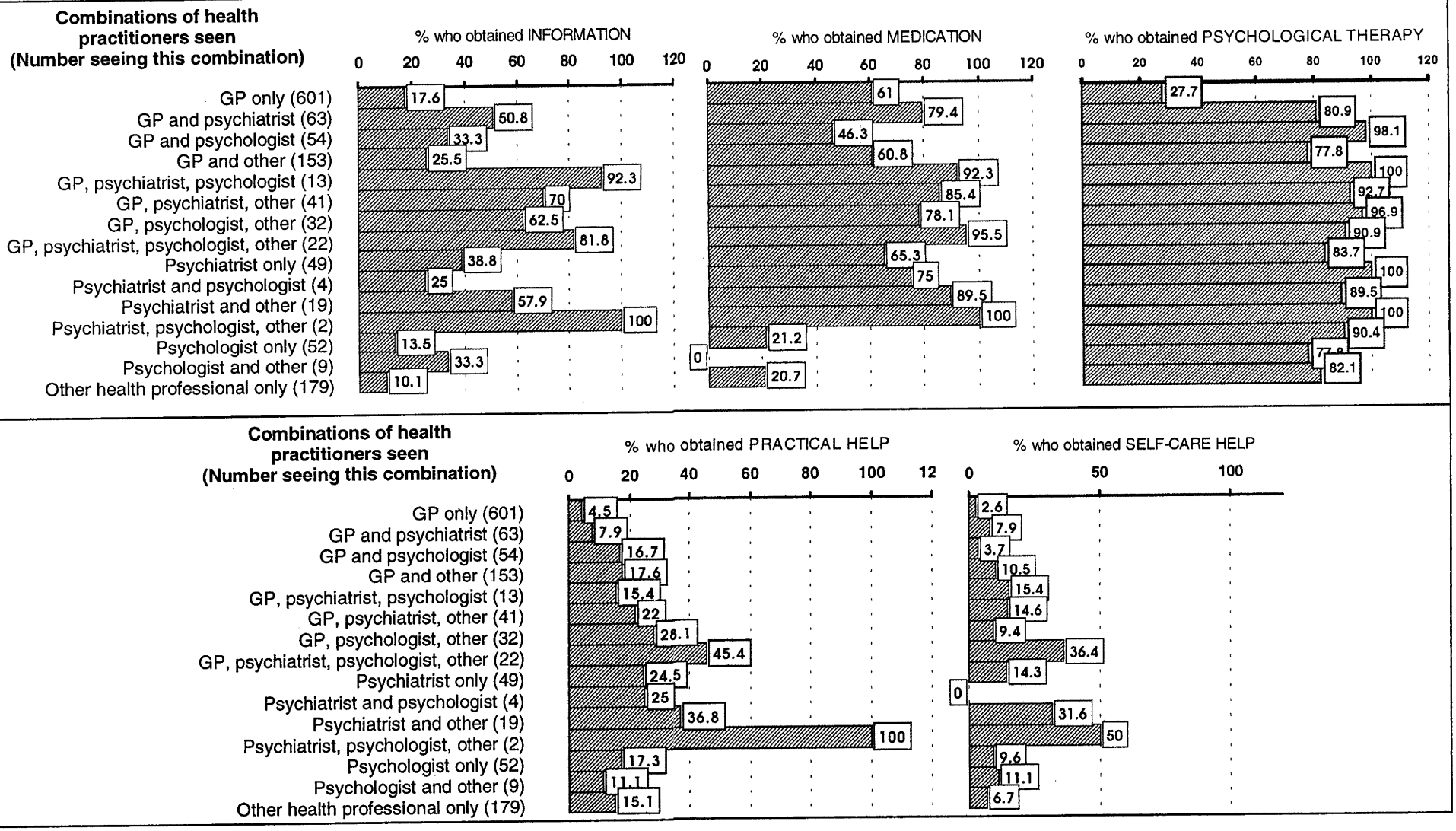
(1) predicted failure perfectly and was omitted from analysis

* $p<0.05$

Obtaining medication

Analysis using simple logistic regression indicated that three predictor variables measuring predisposing factors were associated with receiving this type of assistance: being older, not having or undertaking higher education and living alone (see Table 17). Five measures of need were also associated with receiving medication: having higher GHQ or EPQ Neuroticism scores, number of days out of role, number of physical conditions and having CIDI diagnosed affective disorder. As might be expected, visiting a general practitioner or psychiatrist for mental health

Figure 7: Respondents who obtained any mental health help: Percentages who received each type of help by combinations of health practitioners seen



reasons was also related to receiving medication. Reporting visiting other health professionals, however, was negatively associated with receiving this type of help. Using multiple logistic regression, one predisposing factor and one measure of need were significantly associated with receiving medication: being older and having a higher EPQ-Neuroticism score. Again, the likelihood of obtaining medication was compared between the youngest group of mental health consumers and each of the older groups of consumers. The results in Table 16 confirm that, overall, the likelihood of obtaining medication increased with the age group of consumers. Again, visiting a general practitioner or psychiatrist for mental health reasons was associated with receiving this type of help. These findings were also confirmed when all possible combinations of health practitioners were considered (Figure 7).

Table 17: Odds ratios for associations between visiting combinations of health practitioner and receiving different types of mental health assistance

Health practitioners seen:	Odds ratios for receiving:				
	Information	Medication	Psychological therapy	Practical help	Self-care help
GP only	4.45	1.57	8.32	0.94	0.64
GP and psychiatrist	15.02	3.02	87.77	0.71	1.52
GP and psychologist	8.72	0.91	1066.54	3.10	0.64
GP and other	5.23	1.61	53.98	2.98	1.84
GP, psychiatrist, psychologist	563.5	10.03	(1)*	1.40	1.48
GP, psychiatrist, other	19.18	6.36	440.0	3.29	1.92
GP, psychologist, other	22.28	3.24	699.0	5.80	0.92
GP, psychiatrist, psychologist, other	52.09	27.82	193.56	9.86	5.47
Psychiatrist only	13.35	2.25	91.42	5.89	3.64
Psychiatrist and psychologist	5.66	3.31	(1)	12.21	(1)
Psychiatrist and other	11.51	9.66	106.58	8.10	8.07
Psychiatrist, psychologist, other	(1)	(1)	(1)	(1)	3.76
Psychologist only	3.10	0.35	215.54	4.46	2.90
Psychologist and other	4.59	(2)	86.47	0.50	0.64
Other health practitioner only	2.38	0.34	89.14	4.30	1.75

Abbreviations: other: other health practitioner
Notes: Predisposing, enabling and need variables included in analyses but not shown here.
(1) predicted success perfectly and were omitted from analysis

Receiving psychological therapy

Simple logistic regressions indicated that 11 of the 25 predictor variables were significantly associated with receiving psychological therapy (see Table 19). These included three predisposing factors: being younger, having or undertaking

Table 18: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and receiving MEDICATION when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for: Simple regression:	Multiple regression:
Predisposing:		
Age (5 year age groups)	1.12 (1.07 - 1.18)*	1.08 (1.02 - 1.15)*
Sex (female)	0.97 (0.75 - 1.25)	0.99 (0.69 - 1.44)
Higher education	0.61 (0.46 - 0.80)*	0.76 (0.56 - 1.03)
Living alone	1.69 (1.17 - 2.43)*	1.42 (0.92 - 2.20)
Separated	1.22 (0.54 - 2.77)	1.20 (0.49 - 2.95)
Divorced	1.30 (0.91 - 1.85)	1.05 (0.70 - 1.58)
Enabling:		
Rural	1.02 (0.64 - 1.62)	0.90 (0.54 - 1.49)
Remote	1.14 (0.72 - 1.81)	1.18 (0.62 - 2.27)
Usual language not English	1.33 (0.61 - 2.90)	2.10 (0.93 - 4.77)
Government assistance	1.34 (1.00 - 1.80)	1.01 (0.77 - 1.34)
Unemployed	0.63 (0.25 - 1.57)	0.56 (0.20 - 1.55)
Health practitioner:		
GP visit	2.96 (2.14 - 4.09)*	3.39 (2.14 - 5.37)*
Psychiatrist visit	3.82 (2.48 - 5.89)*	4.81 (2.75 - 8.43)*
Psychologist visit	0.85 (0.55 - 1.31)	0.88 (0.51 - 1.51)
Other health professional visit	0.69 (0.50 - 0.96)*	1.02 (0.66 - 1.56)
Need:		
CIDI affective disorder	1.77 (1.21 - 2.59)*	1.30 (0.86 - 1.97)
CIDI anxiety disorder	1.42 (0.91 - 2.21)	0.84 (0.53 - 1.33)
CIDI substance abuse disorder	1.05 (0.74 - 1.50)	1.15 (0.56 - 2.38)
Self-identified depression	1.49 (0.90 - 2.46)	1.08 (0.63 - 1.85)
Self-identified anxiety	1.03 (0.80 - 1.31)	0.87 (0.54 - 1.41)
Self-identified substance abuse	1.06 (0.45 - 2.47)	0.86 (0.24 - 3.06)
GHQ score	1.05 (1.01 - 1.10)*	1.01 (0.97 - 1.05)
EPQ-R Neuroticism score	1.13 (1.06 - 1.20)*	1.10 (1.03 - 1.16)*
Days out of role	1.04 (1.02 - 1.05)*	1.02 (1.00 - 1.04)
Number of physical conditions	1.22 (1.05 - 1.42)*	0.99 (0.84 - 1.18)

* $p < 0.05$

higher education and being separated. Four of the remaining eight predictor variables related to measures of need: having CIDI diagnosed affective or anxiety disorder, having self-identified anxiety and having a higher GHQ score. Three of the predictor variables indicating the category of health practitioner from whom mental health help was obtained were associated with receiving psychological therapy. Having seen a general practitioner for mental health reasons, however, was negatively associated with receiving this form of help. From the multiple logistic regression, one predisposing variable and one measure of need were significantly associated with receiving such help: being separated and having a lower than usual EPQ-R Neuroticism score. Three health practitioner variables were also associated with receiving this type of assistance: having obtained services from a psychiatrist, psychologist, or other health professional. Comparable results were obtained when all possible combinations of health practitioners were included in the analysis. As seen in Figure 7 and Table 17, those who saw only a general practitioner were much less likely to have obtained psychological therapy for their mental health problems, compared with other consumers. Age group of respondent was not found to be significant in this analysis. Results were similar when age groups of consumers were considered separately (Table 16).

Obtaining practical help

Using simple logistic regression analysis, 10 of the 25 predictor variables were significantly associated with receiving practical help (see Table 20). These included two predisposing and enabling factors: being younger and being unemployed respectively. Needing mental health help, indicated by having CIDI diagnosed affective or substance abuse disorders, self-identifying as having anxiety, and having a higher GHQ score were also significantly associated with obtaining practical help. Again, the variables indicating that respondents had obtained services

from psychiatrists, psychologists or other health practitioners were associated with receiving this type of assistance, while obtaining mental health care from a general practitioner was negatively associated with receiving practical help.

Table 19: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and receiving PSYCHOLOGICAL THERAPY when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for:	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.87 (0.83 - 0.91)*	0.94 (0.86 - 1.02)
Sex (female)	0.96 (0.51 - 1.80)	0.98 (0.53 - 1.84)
Higher education	1.60 (1.21 - 2.10)*	1.29 (0.84 - 1.97)
Living alone	1.13 (0.88 - 1.45)	0.95 (0.65 - 1.39)
Separated	2.68 (1.49 - 4.83)*	1.86 (1.10 - 3.14)*
Divorced	0.81 (0.51 - 1.25)	0.85 (0.58 - 1.23)
Enabling:		
Rural	1.11 (0.77 - 1.60)	1.13 (0.71 - 1.79)
Remote	0.61 (0.37 - 1.00)	0.68 (0.38 - 1.21)
Usual language not English	0.69 (0.27 - 1.76)	0.68 (0.28 - 1.66)
Government assistance	0.98 (0.75 - 1.28)	0.92 (0.56 - 1.50)
Unemployed	1.75 (0.68 - 4.48)	1.18 (0.38 - 3.63)
Health practitioner:		
GP visit	0.32 (0.21 - 0.49)*	1.03 (0.63 - 1.69)
Psychiatrist visit	6.22 (3.67 - 10.57)*	8.56 (3.70 - 19.79)*
Psychologist visit	20.04 (7.67 - 52.38)*	24.80 (8.96 - 68.67)*
Other health professional visit	6.18 (3.23 - 11.80)*	7.76 (3.81 - 15.46)*
Need:		
CIDI affective disorder	1.65 (1.17 - 2.32)*	1.51 (0.67 - 3.39)
CIDI anxiety disorder	1.53 (1.06 - 2.20)*	1.20 (0.55 - 2.60)
CIDI substance abuse disorder	1.46 (0.93 - 2.31)	0.90 (0.46 - 1.78)
Self-identified depression	1.26 (0.76 - 2.10)	1.04 (0.55 - 1.98)
Self-identified anxiety	1.68 (1.24 - 2.29)*	1.51 (0.91 - 2.53)
Self-identified substance abuse	1.63 (0.31 - 8.50)	1.42 (0.13 - 15.91)
GHQ score	1.05 (1.01 - 1.10)*	1.01 (0.95 - 1.08)
EPQ-R Neuroticism score	1.01 (0.99 - 1.05)	0.94 (0.89 - 0.98)*
Days out of role	1.01 (0.99 - 1.03)	0.99 (0.96 - 1.02)
Number of physical conditions	0.87 (0.74 - 1.03)	0.99 (0.77 - 1.28)

* $p < 0.05$

Table 20: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and receiving PRACTICAL HELP when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for: Simple regression:	Multiple regression:
Predisposing:		
Age (5 year age groups)	0.89 (0.84 - 0.96)*	0.91 (0.82 - 1.01)
Sex (female)	0.69 (0.44 - 1.09)	0.72 (0.37 - 1.42)
Higher education	1.66 (0.94 - 2.92)	1.54 (0.90 - 2.68)
Living alone	1.44 (0.97 - 2.13)	1.07 (0.64 - 1.79)
Separated	1.39 (0.72 - 2.67)	1.25 (0.64 - 2.43)
Divorced	1.65 (0.91 - 3.00)	1.83 (1.10 - 3.05)*
Enabling:		
Rural	1.41 (0.85 - 2.34)	1.43 (0.72 - 2.84)
Remote	0.80 (0.30 - 2.19)	0.90 (0.23 - 3.58)
Usual language not English	1.25 (0.39 - 4.02)	1.10 (0.29 - 4.11)
Government assistance	1.15 (0.68 - 1.96)	0.83 (0.38 - 1.81)
Unemployed	2.42 (1.05 - 5.57)*	1.87 (0.68 - 5.18)
Health practitioner:		
GP visit	0.43 (0.23 - 0.83)*	0.54 (0.32 - 0.94)*
Psychiatrist visit	2.43 (1.42 - 4.18)*	1.80 (0.83 - 3.93)
Psychologist visit	2.71 (1.71 - 4.30)*	2.14 (1.29 - 3.55)*
Other health professional visit	3.43 (2.15 - 5.49)*	2.43 (1.45 - 4.07)*
Need:		
CIDI affective disorder	1.83 (1.19 - 2.81)*	1.65 (0.98 - 2.78)
CIDI anxiety disorder	1.80 (0.98 - 3.30)	1.27 (0.49 - 3.29).
CIDI substance abuse disorder	1.74 (1.02 - 2.97)*	0.97 (0.52 - 1.79)
Self-identified depression	1.14 (0.54 - 2.41)	1.10 (0.46 - 2.60)
Self-identified anxiety	2.21 (1.42 - 3.42)*	2.10 (1.20 - 3.67)*
Self-identified substance abuse	2.24 (0.36 - 13.76)	1.81 (0.33 - 10.01)
GHQ score	1.09 (1.04 - 1.14)*	1.00 (0.94 - 1.07)
EPQ-R Neuroticism score	1.05 (0.98 - 1.12)	0.96 (0.83 - 1.10)
Days out of role	1.03 (1.00 - 1.05)	1.02 (0.99 - 1.05)
Number of physical conditions	1.07 (0.87 - 1.31)	1.17 (0.92 - 1.49)

* $p < 0.05$

In the multiple logistic regression analysis, one predisposing variable and one measure of need were associated with receiving practical help: being divorced and self-identifying as having anxiety. Receiving mental health help from psychologists and from other health professionals were both associated with

receiving such care, whereas having obtained mental health help from a general practitioner for mental health reasons was negatively associated with receiving practical help. The more detailed analysis, however, indicated that consumers most likely to obtain practical help had seen a combination of health practitioners that included psychiatrists (Figure 7 and Table 17).

Obtaining self-care help

Finally, as given in Table 21, the simple logistic regression identified six predictor variables to be significantly associated with obtaining help to look after one's self or one's home. None of these measured predisposing factors and only one, being unemployed, related to enabling factors. Three variables indicating need and two health practitioner variables were also significantly and positively associated with obtaining self-care help. These were: having a CIDI diagnosed anxiety disorder, having a higher GHQ score and number of days out of role, and reporting making mental health visits to a psychiatrist or other health practitioner. Again, making visits to a general practitioner was negatively associated with obtaining this type of assistance.

In the multiple logistic regression, only one variable relating to need for mental health care was associated with obtaining self-care help: obtaining mental health help from a psychiatrist. Again, additional analyses were undertaken to obtain odds ratios associated with consumers' receiving self-care help after having seen various combinations of health practitioners. As in the case of practical help, the results indicated that those who were most likely to receive this form of assistance had obtained help from a combination of health practitioners that included a psychiatrist (Figure 7 and Table 17).

Table 21: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and receiving SELF-CARE HELP when obtaining mental health care		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.98 (0.88 - 1.09)	1.01 (0.89 - 1.15)
Sex (female)	1.01 (0.43 - 2.34)	1.35 (0.55 - 3.30)
Higher education	1.16 (0.76 - 1.77)	1.27 (0.82 - 1.97)
Living alone	1.62 (0.85 - 3.09)	1.31 (0.60 - 2.90)
Separated	1.08 (0.55 - 2.13)	0.82 (0.36 - 1.89)
Divorced	1.21 (0.65 - 2.26)	1.00 (0.44 - 2.27)
Enabling:		
Rural	1.02 (0.53 - 1.99)	1.24 (0.49 - 3.14)
Remote	1.18 (0.51 - 2.74)	1.38 (0.47 - 4.06)
Usual language not English	1.41 (0.34 - 5.89)	1.35 (0.37 - 4.96)
Government assistance	1.58 (0.92 - 2.74)	1.03 (0.57 - 1.88)
Unemployed	2.90 (1.15 - 7.30)*	2.06 (0.98 - 4.34)
Health practitioner:		
GP visit	0.49 (0.24 - 0.99)*	0.56 (0.28 - 1.14)
Psychiatrist visit	2.95 (1.75 - 4.99)*	2.39 (1.15 - 4.95)*
Psychologist visit	1.56 (0.96 - 2.53)	1.20 (0.64 - 2.27)
Other health professional visit	2.47 (1.18 - 5.18)*	1.76 (0.86 - 3.60)
Need:		
CIDI affective disorder	1.21 (0.66 - 2.23)	0.74 (0.40 - 1.35)
CIDI anxiety disorder	1.79 (1.11 - 2.87)*	1.28 (0.61 - 2.70)
CIDI substance abuse disorder	1.76 (0.88 - 3.52)	1.37 (0.69 - 2.73)
Self-identified depression	1.33 (0.67 - 2.66)	1.54 (0.62 - 3.84)
Self-identified anxiety	1.66 (0.90 - 3.05)	1.45 (0.69 - 3.04)
Self-identified substance abuse	2.37 (0.23 - 24.68)	1.65 (0.22 - 12.21)
GHQ score	1.15 (1.07 - 1.23)*	1.09 (0.97 - 1.23)
EPQ-R Neuroticism score	1.03 (0.96 - 1.10)	0.93 (0.85 - 1.01)
Days out of role	1.05 (1.01 - 1.08)*	1.03 (0.99 - 1.06)
Number of physical conditions	1.18 (0.96 - 1.46)	1.14 (0.91 - 1.42)

* $p < 0.05$

Discussion

The analyses described in this chapter applied the Andersen behavioural model to identify the extent to which variables measuring need, predisposing, enabling, and

health practitioner factors were associated with Australians reporting that they had received particular types of assistance when they obtained mental health help. Five types of assistance were considered: obtaining information, obtaining medication, receiving psychological therapy, obtaining practical help for problems concerning house, money and work ability, and help with looking after oneself or one's home. Simple and multiple logistic regressions were undertaken. The simple logistic regressions explored the extent to which each of the five types of assistance received were associated with any of the 25 predictor variables, considered one at a time. Multiple logistic regressions were also undertaken. Further analyses that explored the impact of age group of consumer and combinations of health practitioners seen were also conducted. From the results of these analyses, various conclusions can be drawn about the types of mental health assistance provided to Australians using formal health services for their mental health problems.

Need factors relating to obtaining particular types of assistance

A general finding across all simple and multiple regressions is that, compared with the number of factors significantly associated with using mental health services, relatively few predictor variables identified those who received particular types of mental health assistance. In particular, few measures of need were significantly associated with receiving particular types of assistance.

In the simple logistic regressions, those with a higher EPQ-R Neuroticism score were more likely to have received information and medication while individuals with higher GHQ scores were more likely to have received all forms of assistance with the exception of information. Using multiple regression analysis, one or no measures of need were associated with receiving any particular type of assistance. The EPQ-R Neuroticism score was significantly higher for respondents who received medication, and significantly lower for those who reported receiving

psychological therapy. The direction of this association cannot be determined from these analyses. It may be that practitioners do not favour patients with long-term symptoms for psychological therapy or, alternatively, those who have received such assistance now have reduced neuroticism scores.

Those with self-identified anxiety were more likely to receive practical help. Concerns about such practical matters as work, house and money problems may well result in an individual self-identifying as anxious to the health professional. These findings align with the arguments made elsewhere that individuals' experiences of stressful life events, their coping strategies and sources of support may contribute to a decision to seek formal treatment (Mechanic, 1986; Zola, 1973).

Predisposing factors relating to obtaining particular types of assistance

Various non-need factors may be related to obtaining particular forms of mental health help. Such factors will include the individual's predisposition to seek particular types of care. In the simple logistic regressions, four predisposing factors (age, being separated, being divorced and living alone) were found to be significantly associated with receiving particular types of assistance.

Age of respondent was the predisposing variable most often associated with receiving particular types of help. Younger respondents were more likely to have received information about mental disorders and their treatment. This difference held after controlling both for measures of need and type of health practitioner seen, indicating that the lower levels of information provided to older age groups were not simply the result of their having different morbidity patterns. What are the reasons for this variation? Were older respondents more likely to be indifferent about receiving information about their mental health problems? Were they not offered this information and, as well, lacked the confidence to ask for it? Answers to these questions cannot be drawn from the analyses reported in this chapter. Older

respondents were also more likely to report receiving mental health help in the form of medication. This age difference remained after controlling for measures of psychological distress and mental illness and for types of practitioners seen. This result does not appear incompatible with the previous finding. It may be that those receiving information about their illness and its treatments may be offered, and select from, a wider range of mental health assistance. Given that multiple logistic regression controls for mental disorders, the question to be asked is: was medication the clinically appropriate care option for older patients?

People who were separated or divorced were also more likely to obtain particular types of mental health assistance. Being separated was significantly associated with receiving psychological therapy while divorced respondents were more likely to report obtaining practical help. Those who are separated may find this time of relationship breakdown distressing (Galbaud du Fort et al, 1999; Zola, 1973). While practical assistance may well be needed by the subset of people who have recently divorced, it is not obvious, however, why divorced patients *per se* were more likely to receive practical help.

One further result concerning predisposing factors is worth noting. In contrast to findings reported elsewhere (for example Waitzkin, 1984), the predisposing variable sex of respondent was **not** significantly associated with receiving any particular forms of mental health assistance. While the previous chapter identified women as more likely to have obtained mental health services, particularly services provided by general practitioners, these analyses have identified no difference in the types of assistance provided men and women who have obtained mental health care.

Enabling factors relating to obtaining particular types of assistance

When predictor variables were explored one at a time, those who were unemployed were found to be more likely to have obtained practical or self-care help. These results are not surprising since those who are unemployed face a range of financial and practical problems. After controlling for need factors, however, this enabling factor was no longer associated with receiving any of the five types of assistance. Again, it is worth noting that living in a rural and remote area was not associated with receiving, or not receiving, particular forms of assistance. This finding suggests that those in regional Australia who did obtain mental health help generally received similar types of help as those in more populated communities.

Health practitioner factors relating to obtaining particular types of assistance

These analyses found there to be a number of associations between receiving particular types of assistance and the four health-system variables indicating the types of practitioners from whom mental health help was obtained. It is noteworthy that visiting a psychiatrist was associated with receiving the most types of assistance. In the simple logistic regressions, obtaining help from a psychiatrist was significantly associated with obtaining each of the five forms of assistance. After controlling for need-related factors, only one of these results, relating to practical help, became non-significant. The more detailed analysis examining combinations of practitioners, however, indicated that individuals were most likely to have received practical help if, again, they had seen a combination of practitioners that included psychiatrists. The conclusions to be drawn from these results are that individuals who have moved sufficiently along the pathway of mental health care to have accessed these specialist services have obtained the widest range of mental health assistance.

The simple regressions indicated that those who received services from the fourth health practitioner category, 'other health practitioners', were significantly less likely to have obtained medication, but more likely to have received psychological therapy, practical help and self-care help. The first of these results is unsurprising given that, in Australia, prescribing rights are restricted to medical practitioners by law. When all predictor variables were considered simultaneously, those who had seen this category of professional continued to be more likely to have received psychological therapy, practical and self-care help. Again, these findings are not surprising. The category of 'other health practitioners' included a number of counselling-related positions, for example, mental health team, drug and alcohol counsellor and social worker. Similarly, this category also included those working in community service and welfare settings who are more likely to be able to assist individuals with problems concerning work, finances and ability to live independently. In both the simple and multiple logistic regressions, visiting a psychologist was associated with receiving three forms of assistance, namely information, psychological therapy and practical help.

Finally, the results of the simple logistic regressions indicated that those visiting general practitioners were more likely to have obtained information and medication, but **less** likely to have received psychological therapy, practical help and self-care help. After controlling for need in the multiple regression, those using general practitioner services were more likely to have obtained information and medication and less likely to have received practical help. From the more detailed analyses that examined associations between seeing various combinations of health practitioners and receiving particular forms of assistance, it appears that the general practitioner's primary role is as prescriber of medication. The sub-set of consumers who saw only a general practitioner for their mental health problem (45% of all

consumers), were least likely to report having received psychological therapy, practical and self-care help. Compared with this group, only one other subset of consumers, those who reported seeing other health practitioners only, were less likely to have received information about mental health problems and possible treatments. Two of these findings are not unexpected. General practitioners are not necessarily trained nor equipped to provide practical advice and self-care help - forms of assistance that are more usually available from welfare and community services workers. However, in comparison with the psychiatrist workforce, Australia has considerably more general practitioners who are more widely distributed across the country. General practice patients will benefit if their local doctor is able to provide them with useful information on where help for such non-medical problems might be obtained. Various changes in general practitioner training and the mechanisms for funding their services still need to be developed before psychological therapy is more easily available from this workforce (Royal Australian College of General Practitioners, 1998). The package of new mental health policy initiatives outlined in the 2001-2002 Budget of the Commonwealth Department of Health and Aged Care may address some of these problems (Commonwealth Department of Health and Aged Care, 2001). That package is expected to provide new Medicare items to allow appropriately trained general practitioners to provide their patients with mental health counselling. This package also includes initiatives that will offer general practitioners improved access to additional allied mental health support (Commonwealth Department of Health and Aged Care, 2001).

Conclusions

One conclusion to be drawn from these analyses is that the types of assistance provided to those obtaining mental health care are most likely to be

associated with the types of health practitioners from whom such care was obtained. Relatively few of the predictor variables measuring need, predisposing and enabling factors were significantly associated with the types of assistance people received for their mental health problems. Age group was most frequently associated with the types of assistance received, indicating possible bias in practitioners' selection and provision of mental health help. The findings suggest that older people who sought help for mental health problems were not provided the range of treatments available to younger people who presented with similar problems. Whether or not this reflects differences in the treatment requirements and preferences of older and younger consumers cannot be inferred from these analyses. This issue will be considered further in the following chapter which applies the Andersen behavioural model to examine need, predisposing, enabling and health practitioner factors associated with Australians reporting unmet need for mental health assistance.

Chapter Five:
Need, predisposing, enabling and health practitioner factors associated with consumers of mental health services reporting partially met or unmet need for mental health care

Chapter Five Abstract

This chapter also draws on the Andersen behavioural model in analysing data from the National Survey of Mental Health and Well-being. These analyses explore the question: *to what extent are need, predisposing, enabling and health practitioner factors associated with consumers of mental health care reporting that their needs have not been fully met?* Simple and multiple ordered logistic regressions were undertaken to identify which of 25 predictor variables were associated with mental health consumers reporting that their needs for mental health assistance were met, only partially met or unmet. Five types of mental health assistance were considered: information, medication, psychological therapy, help with housing or money issues, and help with work or self-care problems.

Psychological therapy was the form of help for which consumers of mental health services most often reported unmet need. In total, almost one-quarter of consumers considered that their needs for this form of help were unmet or only partially met. In comparison, around 10% of consumers reported that their needs for medication, help with housing and money problems or with work and self-care problems were not fully met. Few measures of mental health need were found to be associated with reporting unmet needs. Respondents who self-identified as having anxiety or met requirements for clinical diagnosis of anxiety disorder reported unmet need for three types of assistance: information,

medication, and help with work or self-care problems. After controlling for need, it was found that respondents who were younger were more likely to report unmet need for mental health information, while those with less education were more likely to report unmet need for medication. Having seen a general practitioner was significantly associated with reporting unmet need for both information and help with housing or money problems. Further analysis indicated that it could not be concluded that such unmet need resulted from seeing a general practitioner *per se*. In conclusion, the findings of these analyses raise concerns about potential lack of collaboration between health practitioners and other community resources which might be able to provide help on matters including work problems and assistance in caring for one's self or home. Respondents who had self-identified or clinically diagnosed anxiety were also likely to report unmet mental health care needs.

Introduction

The preceding chapters applied the Andersen behavioural model to examine factors associated with Australians receiving any mental health services, their receiving those services from particular categories of health practitioners, and also their receiving particular types of mental health help. These findings do not indicate the extent to which those who obtained help for their mental health problems consider that their needs had been met. This is the topic to be explored in this chapter. From the perspective of the Andersen behavioural model, the findings reported in this chapter address the question: *Considering those respondents who obtained mental health help, to what extent are need, enabling, predisposing and*

health practitioner factors associated with their reporting that their needs for particular types of mental health assistance have not been met?

The hypothesis that will be tested in this chapter is that:

- In Australia, considering individuals who have obtained mental health help, **only needs-based factors are associated with consumers of mental health help reporting that their needs for particular forms of mental health assistance are unmet or only partially met.**

As in the previous chapters, the data to be analysed in order to test these hypotheses is drawn from the National Survey of Mental Health and Well-being.

The next section of this chapter discusses options for measuring the outcomes of mental health care. It then explores the range of factors that could influence whether consumers report their mental health care needs to be met and summarises previous findings that have also examined these issues. Finally, it identifies the various sub-populations for which unmet need for mental health help is likely to be an issue and gives reasons for limiting the exploration of this issue to the specific sub-populations that have been included in these analyses. The remainder of the chapter then describes the methodology and statistical techniques used in the analyses reported in this chapter, summarises the results of those analyses and, finally, discusses these findings as they might impact on Australians having equal access to formal mental health care.

Outcomes - whose measures?

The first chapter of this thesis raised the issue of how need for mental health care might be defined, for example, whether those needs (including unmet needs), are to be self-assessed by the individual or clinically determined. Much of the research reported in the literature applies the second definition. The consistent

finding from such research is that those with mental disorders fail to recognise that they have a mental health problem with associated mental health needs (Angermeyer and Matschinger, 1996; Bebbington et al, 2000a; Howard et al, 1996; Lin and Parikh, 1999; Munk-Jorgensen et al, 1997; Zima et al, 1996).

The alternative measure of met and unmet need is that reported by individuals as consumers and potential consumers of mental health care. Over the past two decades, governments have attached increased attention and priority to consumers' assessments of the adequacy and appropriateness of the health care they have received. In Australia, the Commonwealth government's revised mental health plan gives priority to developing consumer-focused measures of mental health service outcomes (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 2000). Adopting that consumer focus prompts a further question: *what do we want consumers to assess?*

Satisfaction or met need?

Much of the work exploring consumers' views on their health care has focused on their overall satisfaction with the services they obtained. While this measure allows some assessment of overall health services it gives minimal information to policy makers, service providers and administrators on how such services can be improved (Locker and Dunt, 1978; Williams, 1994). Consumers who report satisfaction with mental health services do not necessarily report receiving enough of particular types of help (Fitzpatrick and Hopkins, 1983; Lebow, 1982; Locker and Dunt, 1978; Sitzia and Wood, 1997). Policy makers will be better informed if they are provided with consumers' assessments of the various features of mental health services that could be improved (Meadows et al, 2000b; Williams and Wilkinson, 1995). These features might relate to the mechanisms of service delivery, for example, period of time before next available appointment, time spent waiting in

the health practitioner's offices and whether there is continuity of care and fees charged. The features could also concern the types of assistance provided during the episode of care, for example, whether individuals consider that they have obtained any, or enough, information, medication, psychological therapy, practical assistance and self-care help. The mental health care needs considered in this chapter refer to this second category of health care measures. The consumer's assessment of mental health needs has also been described as 'perceived needs' (for example, Meadows et al, 2000a).

Numerous factors may contribute to whether consumers report met or unmet need for types of mental health assistance. From the perspective of the Andersen behavioural model, these factors would include need, predisposing, enabling and health practitioner variables explored in the previous chapter's analyses. Factors that contribute to perceptions of met or unmet need should also include those that affect either the consumer's expectations of what forms and amounts of help are needed or the consumer's assessments of whether such needs have been met.

Need, enabling and predisposing factors

Need factors would include clinical diagnosis of mental disorder or the consumer's self-identifying as having a mental disorder. It might be assumed that the individual with severe, chronic or comorbid mental health needs will be more likely to report that some of these needs are unmet (Bakish, 1999; Bebbington et al, 2000a; Perese, 1997). Other measures indicating emotional distress may also increase the individual's self-assessed need for mental health help (Leaf et al, 1985; Mechanic et al, 1992; van de Kar et al, 1992). Lefebvre and colleagues (2000) examining factors associated with reporting unmet need for mental health care in the community found that those reporting unmet need had higher rates of life events.

As discussed in the previous chapters, enabling factors relating to the individual's geographical location, level of income and language spoken may have an impact on that individual's ability to obtain particular types of mental health assistance and consequently on the extent to which needs for these forms of assistance are reported as having not been met. In the United States, prices charged for services have been found to be a major barrier to obtaining needed mental health care for the community as a whole as well as particular disadvantaged groups (Black et al, 1997; Sturm and Sherbourne, 2001). Given the limited availability of psychological and psychiatric services outside the major population centres, Australians living in rural and remote areas may be likely to report unmet need for psychological therapy (Commonwealth Department of Health and Aged Care, 2000a; Jorm et al, 1993). Similarly, those who have limited English skills may have difficulties accessing practitioners who can provide psychological therapy in their own language (Mitchell et al, 1998). In a Canadian study, those with unmet need were more likely to be unemployed (Lefebrve et al, 2000).

Finally, individuals who are predisposed to seek help from the formal health care system to alleviate their health and mental health problems may also have higher expectations of the types and levels of help that should be available to them from the formal health care system (Gill and Sharpe, 1999). Individuals with higher expectations may be more likely to report that the care they obtained did not meet their needs; that is, their expectations. Individuals with particular health or personal problems may also seek types of help not usually offered by the practitioner, or considered by the practitioner to be inappropriate; for example, those seeking complementary therapies for a mental disorder (Sturm and Sherbourne, 2001). There is also a dispositional factor that may affect whether the individual reports mental health care needs as being met. Respondents who bring a 'plaintive set' to their life

experiences may also report that their mental health needs were not met (Henderson et al, 1981).

Health practitioner factors

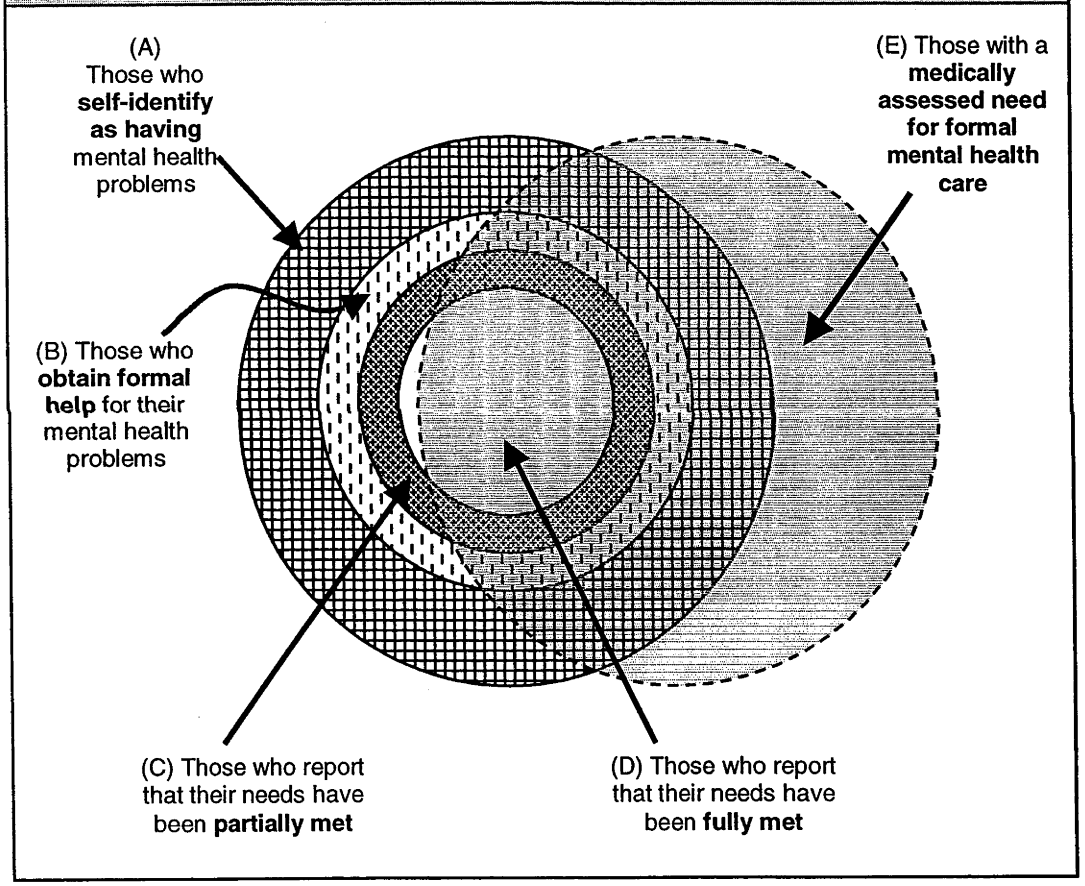
A range of variables relating to the structure of the health system and health care providers may also affect the extent to which individuals report their mental health care needs as being adequately met. Those practitioners from whom help is being sought may not recognise that their patients have mental health problems (Andersen and Harthorn, 1989; Howe, 1996; Munk-Jorgensen et al, 1997). Service providers who have limited training or experience in counselling may be reluctant to offer psychological therapy (Stone and Blashki, 2000). Practitioners faced with a heavy workload may consider that time pressures do not permit them to offer such time consuming treatment (Schattner and Coman, 1998). Alternatively, those providing care may be unwilling to offer psychological therapy to particular patients, for example, those who are less educated or are seen as uncommunicative (Eisenberg, 1979; Waitzken, 1984). In Australia, providers other than general practitioners and medical specialists are not permitted by law to offer assistance in the form of prescribed medication. Those practising in a medical setting may not have accurate information on the types of assistance, for example, practical help, that are available from the community sector (Wilson and Read, 2001). Such factors will all reduce the likelihood that those seeking mental health help are provided health care that adequately addresses their needs.

Unmet need as reported by which sector of the population?

The analyses to be reported in this chapter draw on the Andersen behavioural model to examine need, predisposing, enabling and health practitioner factors associated with consumers, or potential consumers, reporting that their mental health needs were not fully met. Those included in the categories of consumers or potential

consumers comprise the total population so the question to be asked is: *For which subsets of consumers and potential consumers will these analyses be undertaken*? Figure 8, a more detailed variation of Figure 2b, identifies the various subsets of the population of consumers and potential consumers whose information might be included in such an analysis.

Figure 8: Depiction of the overlap between
those self-identifying as having a mental health problem,
obtaining formal help for that problem,
reporting that their mental health needs were partially met, or
reporting that their mental health needs were fully met
AND those meeting requirements for a clinical diagnosis of mental disorder.



Those subgroups of the population who will have unmet or only partially met need for mental health help could refer to:

(i) those with medically assessed need who fail to obtain help - those in group E excluding those in group B who obtained help;

(ii) those with self-assessed need who do not obtain mental health help - those in

group A who are not in group B;

(iii) those who obtain mental health help but consider that at least some of their mental health needs remain unmet - those in group B who are not in group C;

(iv) those who obtain mental health help but consider that at least some of their needs were only partially met - those in group C who are not in group D; or

(v) those who obtained help who report that their mental health needs were either unmet or only partially met - those in group B who are not in group D.

If the measures of unmet need being considered are to be consumers' assessments of the adequacy of their care, exploring the sub-set of the population identified in option (i) is of limited value. As noted earlier, researchers consistently report that many of those with medically assessed mental health needs have not identified themselves as having needs which they could then report as met or unmet. Chapter Three of this thesis has already examined the converse of option (ii), having explored need, predisposing and enabling factors associated with respondents reporting that they had obtained any mental health help. The information that could be obtained by examining the subgroups described in options (iii) and (iv) can also be derived by exploring the broader sub-set of the population described in option (v) - those have obtained mental health care and who consider that their mental health needs remain unmet or only partially met. The analyses reported in this chapter will examine data on this last subgroup of respondents from the National Survey, using the Andersen model to identify the need, predisposing, enabling and health practitioner factors associated with consumers of mental health services reporting that their needs remain unmet or were only partially met.

Meadows and co-authors (2000a) have previously described the prevalence of perceived mental health needs from these survey data. They estimated that 13.8% of the Australian population had a perceived need for mental health care of any type,

with 41.3% of this subgroup reporting all of their needs being met. For those meeting criteria for diagnosis of mental disorder, 94.5% identified themselves as needing mental health help with 47.3% of this subgroup reporting that their needs were fully met. More recently, Meadows, Liaw and colleagues (2001) have drawn on the National Survey to examine the extent to which care provided by general practitioners met the self-assessed mental health needs of those with mental disorders.

In countries outside Australia, other researchers have applied the Andersen model to explore factors associated with reporting unmet need for specific health care or community services, for example, dental treatment (Marcus et al, 2000) and supportive services for HIV-infected persons (Katz et al, 2000). Previous applications of the Andersen model to explore factors associated with unmet need for mental health help were not identified in the peer-reviewed literature.

Methodology

Data items

The reader is again referred to Chapter Two for information concerning the National Survey including the population sample, and response rates. The analyses reported in this chapter include the same set of 25 predictor variables used in the analyses in Chapter Four. These variables were previously described in detail in Tables 2 and 3 in Chapter Three.

Measures of unmet or partially met need

As explained in the previous chapter, survey participants were asked whether they had received each of ten forms of mental health help, as listed in Figure 6. Questions about unmet need referred to five groupings of types of assistance, drawn from these ten forms of help. The categories of assistance used in these questions were as follows:

- **information** about mental illness, its treatments and available services;
- **medication** - medicine or tablets;
- **psychological therapy** - psychotherapy, cognitive behaviour therapy or counselling;
- **housing or money problems;** and
- **work or self-care problems** - help to improve ability to work, help to use time in other ways, or to care for self or home.

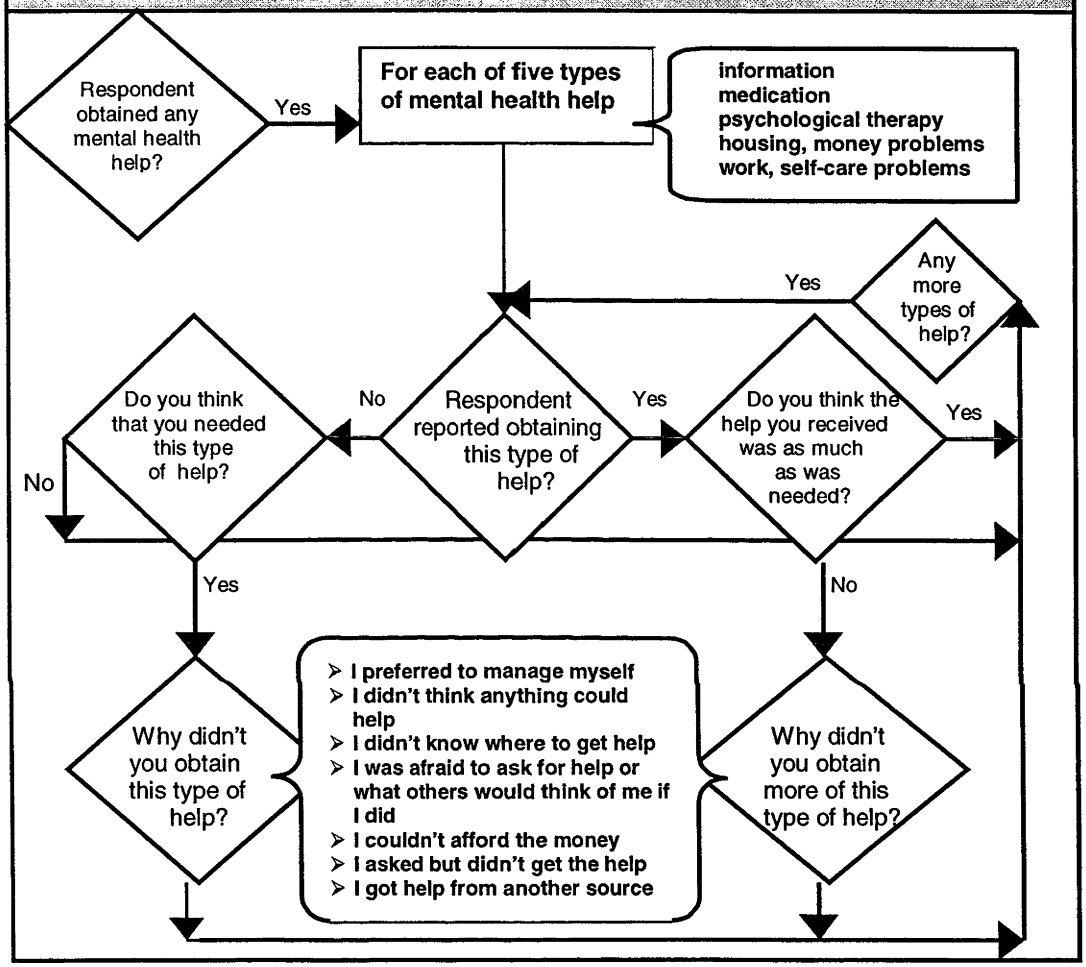
As can be seen, this method of grouping resulted in combinations of types of assistance that could concern quite different sectors of the population. In particular, the last group could include those who were unemployed and were seeking to re-enter the workforce as well as older, retired respondents who had recently lost a partner or experienced serious illness that could reduce their ability to live independently.

This problem did not arise in Chapter Four. The National Survey data provided separate items indicating whether respondents had received each of the ten forms of assistance. The groupings undertaken specifically for that analysis attempted to combine types of assistance that related to similar problems. 'Help to sort out housing or money problems' and 'help to improve ability to work or to use time in other ways' were combined as *practical help*, while those who had responded that they had received 'help to improve ability to look after self or home' were identified as having obtained *self-care help*. This issue will be considered again in discussing the results of these analyses.

For each of these five categories of assistance, those who reported receiving a given type of assistance were asked whether they had received enough of that form of help, while those who had not obtained such assistance were asked if they

considered that they had needed it. Figure 9 indicates the ordering of questions used in this component of the survey.

Figure 9: Structure of questions asked of respondents who obtained any mental health help to indicate whether their needs for five types of mental health assistance were fully met, partially met, or unmet



Statistical methods

Descriptive analyses were undertaken on the subset of 1,329 respondents who received any mental health help. The percentages of this subgroup to report that their needs were met, partially met or unmet were calculated for each of the five types of mental health assistance - information, medication, psychological therapy, help with housing or money problems and help with work or self-care problems.

Simple and multiple ordered logistic regressions were then undertaken in order to identify which of the 25 predictor variables were associated with survey

participants reporting that their needs for a particular category of mental health help were partially met or unmet. For standard logistic regression analyses including those undertaken in the previous two chapters, the dependent variable, for example, obtained mental health help from a psychiatrist or obtained medication to assist with mental health problems, is binary. Respondents are classified as having obtained or not obtained this type of help. In the analyses undertaken in this chapter, however, the dependent variable concerning unmet mental health needs can take any of three values. Mental health needs for this particular type of assistance (information, medication and so on) could be classified as being fully met, partially met, or unmet. Values were assigned to each of these outcomes as follows:

- those whose needs for this type of help were met were scored zero;
- those receiving some but not enough were scored one; and
- those receiving none of this type of assistance who considered that they had needed such help were scored two.

The numerical values of zero, one or two define different categorical groups and have no significance apart from determining the ordering of the three outcomes. Ordered logistic regressions were then required to identify associations between these dependent variables and the 25 predictor variables. In the simple ordered logistic regressions, each of the predictor variables was considered separately; that is, the analysis identifies the level of association between the three-valued dependent variable and that single predictor variable. Multiple ordered logistic regression allows for each of the 25 predictor variables having some association with the dependent variable to be considered simultaneously. This method of analysis makes it possible to identify which predisposing, enabling and health practitioner factors were significantly associated with reporting unmet or partially met need for mental health help after controlling for need-related factors. Again, the odds ratios and 95%

confidence intervals around these ratios were calculated for both the simple and multiple ordered logistic regressions. Similarly, the standard errors of those odds ratios were derived from the global weight and replicate weights included with each record using the formula given in Chapter Three. These analyses were undertaken using the statistical package STATA Release 6 (Statacorp, 1999). Finally, the subsets of consumers who reported that their needs were unmet or partially met are considered. Descriptive statistics are provided on the reasons proffered by these consumers for not seeking that needed help.

Results

The results of the preliminary analyses are given in Table 22. These results indicate that about 5% of those receiving any mental health help reported that their needs for information or medication were only partially met, whereas over 13% of this group of respondents reported that their needs for psychological therapy were not fully met.

Table 22: Percentages of those receiving any mental health help who reported that their needs for each type of assistance were fully met, partially met or unmet

Type of assistance	For those who received any mental health help (N=1329), percentage to report that their need for this type of assistance was:		
	met	partially met	unmet
Information	82.9	5.3	11.8
Medication	92.7	5.0	2.3
Psychological therapy	74.7	13.1	12.2
Help with house or money problems	89.5	1.2	9.3
Help with work or self-care problems	89.4	2.9	7.7

Of those who obtained any mental health help, over 11% received no information but considered they had needed it. Similarly, over 12% of consumers of mental health care felt they had needed psychological therapy but had not been provided this type of assistance. In contrast, medication needs were least often reported as

being unmet with only 2.3% of consumers considering that their needs for such help had not been met at all. The simple and multiple regression analyses were then undertaken. The results of these analyses are given in Tables 23 to 29.

Unmet need for information

As seen in Table 23, the simple ordered logistic regression analysis found three predisposing predictor variables to be significantly associated with reporting unmet need for mental health information: being younger, having less education and not being divorced. Having visited a general practitioner to obtain mental health help was also associated with reporting unmet need for this type of assistance. Six need-related variables were also associated with having unmet need for mental health information: having a CIDI diagnosed affective, anxiety or substance abuse disorder, self-identifying as having anxiety and having a higher EPQ-R Neuroticism score.

Using ordered multiple logistic regression, two of the four predisposing factors continued to be significantly associated with this unmet need: being younger and not being divorced. As in the previous chapter, further analysis was undertaken to explore the associations between reporting unmet need for information between those in the youngest age group and older consumers. These results, provided in Table 24, confirm that, relative to the youngest age group, likelihood of reporting unmet need for information decreased as age of respondents increased. The health practitioner variable, having obtained help from a general practitioner, also remained significantly associated with this unmet need. However, when all possible combinations of health practitioners were compared, those who saw only a general practitioner were less likely to report such unmet need, compared with those who had seen a general practitioner but also other categories of health practitioners. While 16.8 % of the 601 consumers who saw only a general practitioner reported unmet need for information, 22.8% of the 378 respondents who also saw other types

Table 23: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and reporting unmet need for MENTAL HEALTH INFORMATION when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for: Simple regression:	Multiple regression:
Predisposing:		
Age (in 5 year age groups)	0.89 (0.80 - 0.98)*	0.87 (0.76 - 0.99)*
Sex (female)	0.92 (0.65 - 1.32)	1.00 (0.61 - 1.63)
Higher education	0.72 (0.53 - 0.98)*	0.69 (0.41 - 1.19)
Living alone	1.00 (0.67 - 1.50)	1.08 (0.63 - 1.85)
Separated	1.18 (0.59 - 2.34)	0.88 (0.37 - 2.08)
Divorced	0.55 (0.35 - 0.89)*	0.57 (0.33 - 0.99)*
Enabling:		
Rural	0.93 (0.49 - 1.78)	1.07 (0.56 - 2.02)
Remote	1.46 (0.66 - 3.23)	1.64 (0.64 - 4.22)
Usual language not English	2.13 (0.82 - 5.52)	2.48 (0.87 - 7.06)
Government assistance	1.26 (0.91 - 1.75)	1.04 (0.73 - 1.49)
Unemployed	2.24 (0.82 - 6.10)	1.23 (0.41 - 3.62)
Health practitioner:		
GP visit	1.60 (1.01 - 2.52)*	1.75 (1.09 - 2.80)*
Psychiatrist visit	1.36 (0.85 - 2.18)	1.25 (0.75 - 2.07)
Psychologist visit	1.60 (1.00 - 2.57)	1.48 (0.82 - 2.68)
Other health professional visit	1.08 (0.68 - 1.71)	0.89 (0.55 - 1.43)
Need:		
CIDI affective disorder	1.76 (1.27 - 2.45)*	1.16 (0.63 - 2.13)
CIDI anxiety disorder	2.14 (1.28 - 3.59)*	1.15 (0.72 - 1.82)
CIDI substance abuse disorder	2.16 (1.50 - 3.10)*	1.49 (0.96 - 2.31)
Self-identified depression	1.27 (0.84 - 1.92)	1.52 (0.64 - 3.58)
Self-identified anxiety	2.39 (1.64 - 3.49)*	2.34 (1.22 - 4.50)*
Self-identified substance abuse	2.13 (0.49 - 9.27)	2.26 (0.19 - 26.78)
GHQ score	1.11 (1.05 - 1.17)*	1.05 (0.98 - 1.11)
EPQ-R Neuroticism score	1.13 (1.07 - 1.20)*	1.06 (0.99 - 1.13)
Days out of role	1.02 (1.00 - 1.04)	1.00 (0.97 - 1.03)
Number of physical conditions	1.04 (0.83 - 1.29)	1.09 (0.87 - 1.36)

* $p < 0.05$

of health professionals reported such unmet need ($p<0.05$). Of the need-related variables, only one, self-identifying as having anxiety, continued to be significantly associated with reporting unmet need for mental health information.

Unmet need for medication

The simple logistic regression indicated that one predisposing factor was associated with unmet need for medication: not having a higher education. The remaining four variables were also found to be associated with unmet need for medication in the simple logistic regression measured need factors: having CIDI diagnosed anxiety disorder or substance abuse disorder and having a higher than usual GHQ score or EPQ-R Neuroticism score. These results are provided in Table 25. With the multiple logistic regression analysis, not having a higher education continued to be significantly associated with unmet need for medication while only one factor measuring mental health needs continued to be so associated: having CIDI diagnosed anxiety disorder.

Table 24: Odds ratios associated with reporting unmet or partially met need for different types of mental health help by age group of consumer, relative to those aged 18-19 years

Age group	Number of consumers in age group	Odds ratios for receiving:				
		Information	Medication	Psychological therapy	Practical help	Self-care help
20-24	**97**	1.86	0.20*	0.92	0.60	2.17
25-29	**154**	1.88	0.18*	0.70	0.76	1.16
30-34	**160**	1.11	0.14*	0.64	0.82	0.79
35-39	**203**	0.79	0.22*	0.56	0.48	0.68
40-44	**190**	1.57	0.24*	0.81	0.58	0.98
45-49	**150**	1.43	0.18*	0.87	0.95	0.95
50-54	**137**	1.18	0.21*	0.93	0.54	1.41
55-59	**78**	0.62	0.26	0.35	0.45	0.21
60-64	**52**	0.30	0.11*	0.28	0.48	0.86
65-69	**34**	0.24	0.49	0.45	0.02*	(1)
70-74	**27**	(1)	0.20	0.09*	0.24	0.14
75 and over	**24**	(1)	(1)	0.08*	(1)	0.61

Notes: Enabling, need, health practitioner and other predisposing variables included in analyses but not shown in this table
(1) predicted failure perfectly and was omitted from analysis
* $p<0.05$

Table 25: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and reporting unmet need for MEDICATION when obtaining mental health care		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.99 (0.91 - 1.07)	0.96 (0.87 - 1.07)
Sex (female)	0.71 (0.37 - 1.36)	0.66 (0.31 - 1.40)
Higher education	0.45 (0.30 - 0.67)*	0.45 (0.27 - 0.74)*
Living alone	0.91 (0.49 - 1.71)	0.91 (0.46 - 1.80)
Separated	1.29 (0.53 - 3.12)	1.27 (0.54 - 3.01)
Divorced	0.65 (0.34 - 1.23)	0.61 (0.23 - 1.62)
Enabling:		
Rural	0.96 (0.30 - 3.09)	0.84 (0.20 - 3.48)
Remote	0.79 (0.38 - 1.64)	0.83 (0.36 - 1.96)
Usual language not English	1.98 (0.54 - 7.25)	2.07 (0.54 - 7.94)
Government assistance	0.98 (0.53 - 1.80)	0.80 (0.38 - 1.69)
Unemployed	1.26 (0.47 - 3.33)	0.69 (0.23 - 2.09)
Health practitioner:		
GP visit	1.97 (0.82 - 4.73)	1.50 (0.62 - 3.66)
Psychiatrist visit	0.71 (0.22 - 2.27)	0.61 (0.19 - 2.01)
Psychologist visit	0.90 (0.26 - 3.09)	0.70 (0.20 - 2.41)
Other health professional visit	0.72 (0.36 - 1.45)	0.74 (0.39 - 1.38)
Need:		
CIDI affective disorder	1.80 (0.67 - 4.86)	1.21 (0.48 - 3.05)
CIDI anxiety disorder	2.46 (1.53 - 3.95)*	1.97 (1.23 - 3.13)*
CIDI substance abuse disorder	1.87 (1.07 - 3.25)*	1.42 (0.69 - 2.95)
Self-identified depression	1.52 (0.65 - 3.60)	1.09 (0.44 - 2.69)
Self-identified anxiety	1.25 (0.65 - 2.39)	0.94 (0.42 - 2.11)
Self-identified substance abuse	1.84 (0.11 - 31.52)	1.39 (0.07 - 26.10)
GHQ score	1.11 (1.04 - 1.19)*	1.09 (0.99 - 1.19)
EPQ-R Neuroticism score	1.11 (1.02 - 1.20)*	1.03 (0.94 - 1.13)
Days out of role	1.02 (0.99 - 1.04)	1.00 (0.97 - 1.04)
Number of physical conditions	1.02 (0.86 - 1.20)	0.97 (0.79 - 1.19)

* $p < 0.05$

Unmet need for psychological therapy

Simple ordered logistic regressions indicated that one enabling variable was associated with unmet need for psychological therapy: not living in a rural location (Table 26). Seven need-related variables were also associated with reporting this

unmet need: having CIDI diagnosed affective, anxiety or substance abuse disorders, self-identifying as having depression or anxiety, and having higher GHQ or EPQ-R Neuroticism scores. Not living in a rural location remained significantly associated

Table 26: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and reporting unmet need for PSYCHOLOGICAL THERAPY when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for: Simple regression:	Multiple regression:
Predisposing:		
Age (in 5 year age groups)	0.92 (0.85 - 1.00)	0.93 (0.83 - 1.03)
Sex (female)	1.21 (0.96 - 1.51)	1.16 (0.82 - 1.65)
Higher education	0.79 (0.55 - 1.13)	0.79 (0.54 - 1.16)
Living alone	0.98 (0.67 - 1.44)	0.90 (0.62 - 1.32)
Separated	0.97 (0.57 - 1.66)	0.98 (0.52 - 1.85)
Divorced	1.49 (0.91 - 2.44)	1.64 (0.89 - 3.01)
Enabling:		
Rural	0.49 (0.29 - 0.83)*	0.45 (0.26 - 0.78)*
Remote	1.25 (0.61 - 2.57)	1.24 (0.52 - 2.91)
Usual language not English	1.19 (0.53 - 2.72)	1.15 (0.44 - 3.03)
Government assistance	1.06 (0.78 - 1.43)	1.07 (0.69 - 1.67)
Unemployed	1.30 (0.91 - 1.86)	0.86 (0.50 - 1.50)
Health practitioner:		
GP visit	1.23 (0.78 - 1.93)	1.16 (0.67 - 2.03)
Psychiatrist visit	0.78 (0.53 - 1.14)	0.75 (0.42 - 1.31)
Psychologist visit	0.95 (0.62 - 1.44)	0.92 (0.52 - 1.63)
Other health professional visit	1.01 (0.72 - 1.42)	1.05 (0.71 - 1.56)
Need:		
CIDI affective disorder	1.42 (1.05 - 1.92)*	0.93 (0.66 - 1.33)
CIDI anxiety disorder	1.76 (1.03 - 3.02)*	1.37 (0.69 - 2.72)
CIDI substance abuse disorder	1.73 (1.16 - 2.56)*	1.50 (0.86 - 2.58)
Self-identified depression	1.80 (1.16 - 2.79)*	1.78 (1.12 - 2.85)*
Self-identified anxiety	1.43 (1.06 - 1.94)*	1.39 (0.91 - 2.12)
Self-identified substance abuse	1.11 (0.18 - 6.93)	0.86 (0.18 - 4.09)
GHQ score	1.08 (1.03 - 1.13)*	1.06 (0.99 - 1.14)
EPQ-R Neuroticism score	1.09 (1.04 - 1.15)*	1.05 (0.96 - 1.14)
Days out of role	1.00 (0.98 - 1.01)	0.99 (0.97 - 1.01)
Number of physical conditions	0.90 (0.74 - 1.09)	0.90 (0.75 - 1.07)

* $p < 0.05$

with unmet need for psychological therapy in the multiple regression analysis. Again, only one need-related predictor variable, self-identifying as having depression, was found to be significant when all variables were included simultaneously in the analysis.

Unmet need for house or money problems

Using simple ordered logistic regression analysis, nine of the 25 predictor variables were significantly associated with reporting unmet need for help with housing or money concerns (see Table 27). These included two predisposing and two enabling factors: living alone, being divorced, receiving a government allowance, and being unemployed. Having visited a general practitioner or other health practitioner for mental health help were also associated with reporting unmet need for help with housing or money problems. Five predictor variables measuring need for mental health help were also associated with reporting this unmet need: having CIDI diagnosed anxiety or substance abuse disorders, self-identifying as having substance abuse problems, and having a higher than usual GHQ or EPQ-R Neuroticism score.

In the multiple logistic regression analysis, one predisposing variable and one enabling variable were associated with reporting unmet need for this type of assistance: being divorced and obtaining most of one's income from a government pension or allowance. Only one measure of need remained significantly associated with having unmet need for help with housing or money problems: having a higher than usual EPQ-R Neuroticism score.

The same health practitioner variables - having visited a general practitioner or other health practitioner for mental health reasons - continued to be significantly associated with reporting this unmet need. Again, further analyses were undertaken to explore associations between reporting unmet need for this type of help and

combinations of health practitioners seen. Those who saw only general practitioners were significantly less likely to report this unmet need, compared with those who saw combinations of health practitioners that included general practitioners as well

Table 27: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and reporting unmet need for HELP FOR HOUSING OR MONEY PROBLEMS when obtaining mental health care

Predictor variable	Odds ratios and 95% confidence intervals for:	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (5 year age groups)	0.93 (0.85 - 1.02)	0.92 (0.80 - 1.07)
Sex (female)	0.73 (0.47 - 1.13)	0.63 (0.34 - 1.15)
Higher education	0.85 (0.48 - 1.48)	1.03 (0.62 - 1.70)
Living alone	1.55 (1.03 - 2.33)*	1.08 (0.49 - 2.37)
Separated	1.37 (0.67 - 2.83)	1.11 (0.39 - 3.16)
Divorced	2.49 (1.60 - 3.85)*	2.61 (1.44 - 4.73)*
Enabling:		
Rural	1.12 (0.67 - 1.88)	0.82 (0.41 - 1.63)
Remote	0.85 (0.39 - 1.87)	0.84 (0.32 - 2.22)
Usual language not English	1.32 (0.44 - 3.96)	1.14 (0.32 - 4.08)
Government assistance	2.63 (1.69 - 4.09)*	2.09 (1.10 - 4.00)*
Unemployed	3.59 (1.31 - 9.86)*	1.51 (0.55 - 4.16)
Health practitioner:		
GP visit	1.59 (1.05 - 2.43)*	2.09 (1.11 - 3.91)*
Psychiatrist visit	1.12 (0.73 - 1.71)	0.65 (0.36 - 1.16)
Psychologist visit	1.29 (0.73 - 2.29)	1.08 (0.52 - 2.24)
Other health professional visit	2.09 (1.39 - 3.15)*	2.02 (1.08 - 3.77)*
Need:		
CIDI affective disorder	1.66 (0.88 - 3.13)	0.99 (0.52 - 1.91)
CIDI anxiety disorder	2.71 (1.33 - 5.53)*	1.41 (0.69 - 2.87)
CIDI substance abuse disorder	1.91 (1.27 - 2.86)*	0.95 (0.53 - 1.72)
Self-identified depression	1.30 (0.79 - 2.15)	1.24 (0.70 - 2.22)
Self-identified anxiety	1.71 (1.00 - 2.91)	1.33 (0.72 - 2.43)
Self-identified substance abuse	3.83 (1.36 - 10.79)*	2.79 (0.60 - 13.05)
GHQ score	1.12 (1.03 - 1.23)*	1.05 (0.94 - 1.17)
EPQ-R Neuroticism score	1.21 (1.09 - 1.34)*	1.14 (1.01 - 1.29)*
Days out of role	1.02 (1.00 - 1.04)	1.00 (0.97 - 1.03)
Number of physical conditions	1.04 (0.87 - 1.23)	0.95 (0.72 - 1.24)

* $p < 0.05$

as other categories of practitioners; 7.8% compared with 17.2 %. Again, these proportions were significantly different ($p<0.01$). Similarly, those respondents who saw only other health professionals reported less unmet need compared with those who had also obtained help from other categories of health care providers.

Unmet need for help with work or self-care problems

Simple logistic regressions identified nine predictor variables to be associated with reporting unmet need for these types of assistance (Table 28). Four of these variables measured predisposing, enabling and health practitioner factors: being male, living alone, being unemployed, and obtaining help from a psychologist. The remaining five variables were indicators of mental health need: having CIDI diagnosed affective or anxiety disorders, self-identifying as having anxiety and, again, having a higher than usual GHQ or EPQ-R Neuroticism score. In the multiple ordered logistic regression, only three of these variables were significantly associated with reporting this unmet need: being male, self-identifying as having anxiety and having a higher than usual GHQ score.

Reasons for not seeking needed help

Table 29 provides descriptive statistics on the numbers of respondents reporting unmet or partially met need for each type of assistance and gives percentage breakdowns of the explanations given by respondents as the primary reason for their not seeking further needed help. The numbers of respondents who reported unmet needs ranged from 16 with partially met need for help with housing or money problems to 174 who considered their needs for psychological therapy to be only partially met. Two explanations frequently selected by respondents as the reason for their not seeking further help were quite different: that they prefer to manage themselves, and that they asked for this type of help but did not get it. These

Table 28: Odds ratios for associations between predisposing, enabling, health practitioner and need factors and reporting unmet need for HELP FOR WORK OR SELF-CARE PROBLEMS when obtaining mental health care		
Predictor variable	**Odds ratios and 95% confidence intervals for:**	
	Simple regression:	**Multiple regression:**
Predisposing:		
Age (in 5 year age groups)	0.94 (0.86 - 1.04)	0.91 (0.80 - 1.04)
Sex (female)	0.39 (0.19 - 0.79)*	0.32 (0.16 - 0.65)*
Higher education	0.92 (0.61 - 1.40)	0.90 (0.56 - 1.44)
Living alone	1.75 (1.25 - 2.46)*	1.47 (0.95 - 2.27)
Separated	0.98 (0.41 - 2.31)	0.78 (0.24 - 2.55)
Divorced	0.93 (0.44 - 1.99)	0.80 (0.29 - 2.24)
Enabling:		
Rural	1.01 (0.44 - 2.32)	0.86 (0.40 - 1.84)
Remote	0.80 (0.37 - 1.75)	0.79 (0.39 - 1.62)
Usual language not English	1.40 (0.39 - 5.02)	1.04 (0.18 - 5.97)
Government assistance	1.43 (0.93 - 2.21)	1.26 (0.75 - 2.12)
Unemployed	2.51 (1.35 - 4.68)*	1.12 (0.49 - 2.56)
Health practitioner:		
GP visit	1.10 (0.59 - 2.04)	1.15 (0.58 - 2.30)
Psychiatrist visit	1.22 (0.49 - 3.06)	0.68 (0.26 - 1.74)
Psychologist visit	1.94 (1.07 - 3.52)*	1.60 (0.84 - 3.06)
Other health professional visit	1.54 (0.67 - 3.58)	1.34 (0.46 - 3.88)
Need:		
CIDI affective disorder	2.27 (1.44 - 3.58)*	1.46 (0.94 - 2.28)
CIDI anxiety disorder	1.96 (1.20 - 3.20)*	1.12 (0.50 - 2.51)
CIDI substance abuse disorder	1.66 (0.80 - 3.47)	0.77 (0.32 - 1.82)
Self-identified depression	1.69 (0.77 - 3.74)	1.48 (0.61 - 3.58)
Self-identified anxiety	1.77 (1.13 - 2.78)*	1.77 (1.03 - 3.02)*
Self-identified substance abuse	1.60 (0.40 - 6.46)	1.49 (0.52 - 4.26)
GHQ score	1.16 (1.10 - 1.22)*	1.08 (1.01 - 1.15)*
EPQ-R Neuroticism score	1.14 (1.05 - 1.23)*	1.04 (0.93 - 1.17)
Days out of role	1.03 (1.00 - 1.06)	1.01 (0.99 - 1.04)
Number of physical conditions	1.12 (0.96 - 1.31)	1.14 (0.94 - 1.39)

* $p < 0.05$

two results identify two very different issues around the delivery of effective health care. The first indicates consumers' preference for not seeking, or relying too heavily on, formal health care treatment, a finding that matches other research

Table 29: Respondents who reported that their needs for types of mental health assistance were partially met or unmet: reasons given for not seeking more assistance of this type or assistance of this type

	Type of mental health assistance:				
	Inform-ation	Medic-ation	Psych-ological therapy	Help with housing or money problems	Help with work or self-care problems
Number of respondents who received this type of help:	333	741	759	69	162
Number of these who reported not receiving enough	71	66	174	16	38
Percentage whose reasons for not receiving more were:					
- prefer to manage self	23.9	33.3	23.6	12.5	21.1
- didn't think anything could help	15.5	13.6	14.9	12.5	23.7
- didn't know how or where to get more help	12.7	4.5	7.5	12.5	2.6
- afraid to ask for more help, or what others would think of me if I did	9.9	13.6	5.7	10.8	15.8
- couldn't afford the money	8.5	9.1	14.9	12.5	5.3
- asked but didn't get the help	22.5	22.7	28.7	10.8	26.3
- got help from another source	7.0	3.0	4.6	12.5	5.3
Number of respondents who did not receive this type of help:	996	588	570	1260	1167
Number of these who thought they had needed it	157	31	162	124	102
Percentage whose reasons for not receiving any were:					
- prefer to manage self	34.4	48.4	31.1	30.6	24.5
- didn't think anything could help	13.4	3.2	11.2	11.3	21.6
- didn't know how or where to get more help;	12.1	19.4	14.3	19.4	14.7
- afraid to ask for more help, or what others would think of me if I did	10.2	6.5	10.6	9.7	8.8
- couldn't afford the money	4.5	12.9	10.6	4.8	1.0
- asked but didn't get help	18.5	9.7	13.0	15.3	22.5
- got help from another source	7.0	0.0	9.3	8.9	6.9

results that many individuals experiencing physical or mental illness rely on self-treatment (Jorm et al, 1997). The second indicates that the unmet need is a product of the mechanisms of health care delivery - that consumers feel they have attempted to ask for help but their request has not been recognised or acted upon. Further research would be needed to identify factors that contribute to this service barrier.

Finally, a number of respondents who had not received any assistance, for example, medication, psychological therapy or help with housing and money problems, reported that they had not known where such help might be obtained. Again, further research would be needed to better target community-level information on the availability and location of various forms of mental health assistance.

Discussion

The analyses reported in this chapter applied the Andersen behavioural model again, this time to identify the extent to which predictor variables measuring need, predisposing, enabling, and health practitioner factors were associated with consumers of mental health care reporting that their needs for particular types of mental health assistance were unmet. The types of mental health assistance were grouped into five broad categories as follows: obtaining information, obtaining medication, receiving psychological therapy, help for housing or money problems, and help with problems concerning work or ability to look after oneself or one's home. The dependent variables in these analyses could take one of three possible values indicating that needs for a type of assistance were fully met, partially met or unmet. Two types of ordered logistic regression analyses were conducted. Simple logistic regressions identified which predictor variables were significantly associated with reporting unmet need, with each predictor variable considered separately. The multiple ordered logistic regressions included all 25 predictor variables

simultaneously and examined whether predictor variables associated with reporting unmet need for mental health help were confined to those measuring the need for such help, or whether such associations were also found for variables measuring enabling, self-perception of need and health practitioner factors. The conclusions that may be drawn from the findings of these analyses are now considered.

Need factors relating to reporting unmet need for particular types of assistance

From the simple logistic regressions, a number of need-related factors were associated with reporting different types of unmet needs. Three variables, having a CIDI-diagnosed anxiety disorder or higher than usual GHQ or EPQ-R Neuroticism scores were associated with reporting unmet need for each of the five types of assistance, while those with CIDI-diagnosed substance abuse disorder reported all types of unmet need, excluding unmet need for help with work or self-care problems.

In the multiple logistic regressions, however, few variables were found to be significantly associated with reporting unmet need. Self-identifying as being anxious was the only variable significantly associated with more than one unmet need, in this case need for information and for help with work or self-care problems. Reasons for these findings relating to need variables can at best be speculative. For example, having CIDI-diagnosed affective disorder is significantly associated with unmet need for psychological therapy. This finding could reflect that consumers of mental health care in Australia now have access to a range of anti-depressant medications which can be prescribed by their general practitioner but have more difficulty accessing health practitioners who can offer them affordable psychological therapy. If those with higher GHQ scores reported unmet need for help with work or self-care problems, it could be that this worsening of their symptoms (as reflected in the higher GHQ score) has resulted in the individual's finding such responsibilities

more burdensome. However, assistance to address such problems is unlikely to be provided directly by a health practitioner and is more likely to require that the practitioner be well informed about other relevant community and welfare services that could provide assistance to this patient.

Finally, having a clinical diagnosis of affective disorder was significantly associated with reporting unmet need for skills training. Possible reasons for this particular finding are not immediately evident and further analysis would need to be undertaken if this result were to be explained.

Predisposing factors associated with unmet need

There were also few predisposing variables significantly associated with reporting unmet need for mental health help. Younger consumers were more likely to report that they had not received enough information on mental disorders and possible treatments. However, the analyses in the previous chapter identified younger respondents as more likely to obtain such assistance (Table 14). Clearly this group of mental health consumers has an increasing and still unmet need for information about such conditions and their possible treatments.

Those with less education reported unmet need for medication. This finding could have resulted from this subset of consumers perceiving that they needed medication to treat particular mental health problems that cannot be effectively treated in this way. Alternatively, they may perceive that they needed medication to relieve other health problems, for example, insomnia or relief from somatic symptoms.

Men were more likely to report unmet need for work or self-care help. This grouping of forms of help makes it difficult to hypothesise reasons for such unmet need. Men needing self-care help may be experiencing difficulties living alone for the first time, whereas those seeking help to improve their ability to work may have

become unemployed. Both needs result from the roles and responsibilities usually adopted by men in our society, but possible options that could address each type of problem will be quite different. Certainly such forms of assistance are unlikely to be available from a health practitioner and will be more easily accessed if that practitioner can direct the patient to other sources in the community and welfare sectors. Similarly, respondents who lived alone were more likely to report unmet need for practical assistance, either help with house or money concerns, or with work and self-care problems. Effective intersectoral links between health and community sectors will also be required if these unmet needs are to be addressed.

Finally, divorced respondents were more likely to report unmet need for social interventions. This finding is not unexpected, given that couples who are divorcing often face particular financial difficulties given that they are likely to require additional accommodation and transport. Again, these are services that are more likely to be available through the non-medical, community government services.

Enabling factors associated with unmet need

Factors considered in this category could affect whether needed help is available in the region, affordable or provided in the consumer's usual language. Respondents whose main income was a government allowance were more likely to report unmet need for practical assistance, for example, in dealing with housing or money problems. While recipients of allowances are usually entitled to subsidised medical care, other health and living expenses may present particular financial hardship for this group.

The last finding concerning enabling factors was that living in a rural location was significantly negatively associated with reporting unmet need for psychological therapy. This finding also indicates that unmet or partially met need

for such help is more likely to be reported by those living in more populated areas. Further exploration of this issue would be required in order to identify specific locational factors that are associated with reporting this type of unmet need.

Health practitioner factors associated with unmet need

The initial multiple logistic regression analysis indicated that two predictor variables, seeing a general practitioner and seeing other health practitioners, were associated with reporting unmet need for assistance with housing or money problems. Having seen a general practitioner for mental health reasons was also significantly associated with reporting unmet need for information. Similar findings were reported by Meadows and colleagues (2000a; 2001) when they examined unmet need reported by those with mental disorders. However, additional analysis undertaken for the present study took into account the various combinations of practitioners that consumers could have seen and indicated that respondents who reported such unmet needs were more likely to have sought help from a range of practitioners. Those who saw **only** a general practitioner or **only** other health practitioners reported comparatively low levels of unmet need for these types of assistance. Those reporting unmet need for housing and money problems may have been faced with especially difficult problems that could not be easily resolved. Alternatively, they might have considered that, in view of the problems they presented, they should be offered levels or forms of support that were not their entitlement. Unmet need for information was more likely to be reported by those who saw general practitioners and other categories of health care provider, compared with those who saw only a general practitioner. Again, further data would be needed to identify the specific types of information respondents felt they needed but had not obtained and reasons why these needs were not met.

Consumers' reasons for their needs not being met

The last analysis in this chapter briefly explored reasons given by respondents for their needs being unmet or only partially met. Those who had not obtained such help at all and those whose needs were only partially met were most likely to consider that they preferred to self-manage their mental health problems. These findings suggest that mental health in the community may be improved by implementing initiatives that provide reliable information on possible options for effectively self-treating such problems (Jorm et al, 1997).

A large proportion of respondents who reported unmet or partially met needs reported that they considered that they had asked for such help but that it was not provided. There are various circumstances under which consumers could perceive that their requests were not heeded, for example, miscommunication between consumer and health practitioner, requests for clinically inappropriate treatment, or the health practitioner's difficulty in providing such treatment because of such external reasons as practice schedule (Winefield and Murrell, 1992). Again, more detailed examination of this issue is needed.

Conclusion

An important finding from these analyses is that those who self-identified, or were clinically diagnosed, as having anxiety reported partially met or unmet need for three of the five types of help: information, medication, and help with work or self-care problems. Some of the findings in this chapter raise concerns about potential lack of collaboration between health practitioners and other community resources which might be able to provide help on matters including work problems and assistance in caring for one's self or home. This lack of collaboration between service sectors has been recognised previously as a problem for those working in general practice (General Practice Strategy Review Group, 1998). Overall, the

results reported here generate a number of questions that can only be answered with more detailed information relating to the mental health needs, health care access and health service utilisation of particular subgroups of Australians.

Chapter Six:
Need, predisposing and enabling factors associated with young adults obtaining care from general practitioners

Chapter Six Abstract

While the previous chapters examined factors associated with self-reported use of mental health care services, it is also recognised that mental health factors can contribute to whether individuals seek health care generally. This issue is explored more closely in this chapter which examines the associations among predisposing, enabling and need related variables in a cohort of young adults who obtained help from a general practitioner. This cohort from the PATH Through Life Project, conducted by the Centre for Mental Health Research, was aged 20 to 24 years and had agreed that information on their use of general practitioner services over the six month period preceding their PATH interview be made available for analysis. (Permission to have such information for a longer period before the interview was not sought.) Univariate and multiple negative binomial regressions were undertaken to examine the extent to which 21 predictor variables were associated with individuals obtaining general practitioner care in the six months preceding the PATH interview.

When each of the predictor variables was considered in isolation, a number of predisposing factors and one enabling factor were found to be significantly associated with having obtained such care. All but one of the measures of physical and mental health needs that were included in the analyses were also significantly associated with having seen a general practitioner. After controlling for health care needs, young women and those with financial problems continued to use higher numbers of services, when compared with

others with similar levels of need. Those who abstained from alcohol and those with higher levels of suicidal ideation were also more likely to have seen a general practitioner. A number of these findings persisted when a second analysis which included interaction terms was undertaken to account for different effects of predictor variables on men and women. In addition, respondents who were unemployed were more likely to have sought help. While respondents who abstained were again more likely to obtain care, those drinking alcohol to hazardous or harmful levels avoided such care. Women and men exhibited different patterns of help-seeking when they had drinking problems, or felt suicidal. Since many PATH questions related to the 12 months preceding the interview, there might be only partial overlap between such time-limited attributes as attempted suicide and use of general practitioner services. The relationship between such mental health problems and differences in the help-seeking behaviours exhibited by young men and women needs to be explored further.

Introduction

This chapter returns to the question first examined in Chapter Three: *what are the relative contributions of need, predisposing and enabling factors in determining whether Australians obtain formal health care for their mental health problems?* The following analyses explore data from a new sample that offers particular advantages over the sample and data items examined in the previous chapters. That earlier examination of the National Survey's data identified need, predisposing and enabling factors that were associated with a representative sample of Australian adults aged 18 and over obtaining mental health care. Those who

obtained help for their mental health problems were identified by their confirming that one or more of their health consultations in the past 12 months *"... related to mental problems such as stress, anxiety, depression or dependence on drugs or alcohol"*. There are various reasons why this self-identification of mental health related visits might give only part of the total picture of health services used by those with mental health problems. Numerous research reports have noted that those with mental health problems may somatise their symptoms and, as a result, obtain general medical services that they do not consider to be mental-health related (Katon and Walker, 1998; Pearson et al, 1999). Further, respondents who would have described themselves as feeling 'sad' or 'blue' may not have recognised their consultations as being related to 'depression' and, again, have not self-identified as having made mental health related visits. Other respondents may have made mental health-related visits but for various reasons not have reported this at the interview. Finally, respondents may have made a visit to their practitioner primarily for a physical health problem but during which mental health problems were also discussed. Having data on all consultations, with that data collected independently and linked to sociodemographic and mental health information, is likely to provide a better picture of the extent to which mental health needs contribute to use of health services generally.

Such an examination was made possible with access to data collected on a cohort of 2,404 young adults who lived in the Australian Capital Territory and the neighbouring New South Wales town of Queanbeyan and participated in the PATH Through Life Project being conducted by the Centre for Mental Health Research. The first of these linked data sets included a range of sociodemographic variables and measures of mental and physical health problems collected by interview from each of these participants. The second set provided independently collected

information on the number of general practitioner services obtained by 2,184 (90.8%) of this cohort during the six months preceding and six months following their PATH interview. Although information on the types of health problems presented during these general practitioner consultations was not recorded, this lack of detail is not necessarily of concern. As noted above, in any one consultation, an individual may well present with both physical and mental health problems. Access to these linked data provided the opportunity to explore the following question: *to what extent are mental health needs, predisposing and enabling factors associated with young adults obtaining services from a general practitioner?*

The hypothesis that will be tested in this chapter is that:

- **utilisation of general practitioner services by young adults will be associated with measures of mental health need and physical health need; no predisposing or enabling variables will be found to be associated with use of such services.**

The next section briefly considers the factors that might affect young adults' use of general practitioner services. The remainder of this chapter then describes the PATH data sets in more detail, identifies the statistical tools to be used in these analyses, summarises the results and discusses some of the implications of these findings as they concern the equitable provision of mental health care in Australia.

Health service utilisation by young adults

In Australia and elsewhere, young adults form a relatively small percentage of those using primary services. The BEACH Report of General Practice Activity in Australia in 1999 to 2000 (Britt et al, 2000) found that those in the 15 to 24 year age group were least likely to have obtained help from a general practitioner. Elsewhere, other researchers have reported that young adults are most likely to default on their

general practice appointments (Waller and Hodgkin, 2000) or to have no regular general practitioner (Fairley, 1984).

Mental health needs of young adults

Compared with those in older age groups, Australians aged 20 to 24 years are more likely to self-assess their health status as excellent, very good or good (Moon et al, 1999). However, there are some significant health problems experienced by individuals in this age group. In Australia, the major burden of disease for this age group is from mental disorders (Moon et al, 1999) and governments have allocated considerable resources in efforts to reduce the impact of two mental health problems: substance misuse and suicidality (Commonwealth Department of Health and Aged Care, 1997; Moon et al, 1999). Treatment for such problems is often only provided in emergency facilities once the individual reaches a crisis point, for example, attempted suicide or unintended illicit drug overdose (Moon et al, 1999). As a result, research has focused on identifying strategies by which young adults might be encouraged to reduce risky behaviours and to seek help for mental health problems from a range of settings (Cooper and Orcutt, 2000; Gunnell and Frankel, 1994; Holmen et al, 2000; Juszczak and Sadler, 1999; Resnick et al, 1997; Rosenman, 1998). It might be expected, then, that the small percentage of this age group who do obtain services from general practitioners would often have mental health problems, regardless of whether they perceive such problems as the reason for their seeking help on that occasion.

Few studies have explored the impact of both need and non-need factors on the help-seeking behaviours exhibited by young adults. No previous studies applying the Andersen behavioural model to young adults' utilisation of general practitioner services were identified in the literature.

Methodology

Data items

Chapter Two included some preliminary information on the data items collected through the PATH Through Life Project. This section provides more detail on data items explored in this chapter that were collected from or recorded for participants in the PATH survey of 20 to 24 year olds (referred to hereafter as PATH20). These included participants' use of general practitioner services, their sociodemographic attributes, measures of psychological distress, experience of common mental disorders and levels of substance use.

Measure of health care utilisation: number of general practitioner services obtained

All 2,404 young adults who participated in the PATH20 Project were asked if they would consent to the Centre for Mental Health Research being provided information on the numbers of medical services they obtained under the Commonwealth's Medicare system for the six months prior to, and six months after, their PATH interview. For those in the sample who agreed to this request, information on the number of visits they had made to a general practitioner during those two six month periods was obtained from the Health Insurance Commission (HIC). This information is collected by the HIC for administrative purposes and does not identify the type of health problem presented or medical care provided during visits. Permission to obtain information for the 12 months before the interview was not sought from respondents and hence information on service use over this longer period could not be obtained. This meant that the time period of general practitioner services formed the second half of the 12 month period for which a number of the mental health measures were collected.

Predictor variables measuring need

A range of measures identifying mental and physical health needs were obtained from PATH20 participants. Mental health measures included probability of diagnosis of major depression, using the short form of the CIDI (CIDI-SF), and CIDI-SF diagnosis of generalised anxiety disorder both in the past 12 months, (Kessler et al, 1998), and the EPQ-R Short Form Neuroticism score (Eysenck et al, 1985). All respondents were asked three questions concerning their experience of suicidal ideation; whether in the past 12 months, they had: (i) felt that life was hardly worth living; (ii) thought that they really would be better off dead; or (iii) thought about taking their own life. Respondents who answered 'Yes' to the third question were then asked if, during that period, they had: (iv) made plans to take their own life or (v) attempted to take their own life. Responses to these questions were used to generate a severity of suicidal ideation score. Three predictor variables relating to substance use in the past year identified those who drank hazardous or harmful amounts, respondents with moderate to high cigarette consumption, and those who regularly used marijuana. Those who abstained from alcohol in the past year were also identified as previous research has found that abstainers as well as those drinking excessively are likely to have higher levels of depression (Caldwell et al, 2002). The final mental health measure was the mental health score from the Medical Outcomes Study 12-item Short-Form Health Survey (SF-12; Ware et al, 1996).

Three predictor variables indicating need for general practitioner services for physical health reasons were included in the analyses. These were: the physical component of the SF-12 measure, a categorical variable indicating whether female participants were using oral contraception, and a count of the number of chronic physical diseases self-reported by individuals from a list of nine problems: heart

trouble; cancer; thyroid disorder; asthma, chronic bronchitis or emphysema; cataracts, glaucoma or other eye disease; arthritis; diabetes; and epilepsy.

The two SF-12 measures of mental (MCS-12) and physical (PCS-12) health concerned self-reported health in the four weeks preceding the interview. These measures may have only partial relevance for use of general practitioner services in the six month period under question. Most other measures of physical and mental ill-health, however, are likely to be indicators of health care needs over a longer period.

Predictor variables measuring enabling and predisposing factors

Six predictor variables measuring predisposing factors were included in the analysis: being female, having or undertaking higher education, having children, whether married, whether separated or divorced, and number of adverse life events experienced in the past six months. Three enabling variables were also included: being unemployed, having financial problems, and being a full-time student. The last of these was considered as potentially enabling because those studying on campus will often have access to general practitioner care for no charge through student health services. Three other predisposing or enabling variables (age, whether living in rural or remote areas), which were included in the analyses of the National Survey in Chapter Three, are not relevant in these analyses of health services used by a specific age cohort from a limited geographical area. Descriptions of all predictor variables are provided in Table 30.

Statistical analysis

As explained in Chapter Three, logistic regressions were used in the previous analyses because of the variation in methods of grouping the numbers of health services obtained from different categories of health care providers. In this analysis, however, the HIC provided a count of the number of services obtained by each of the 2,184 respondents. This allowed a wider range of statistical tools to be

Table 30: Predictor variables measuring need, enabling and predisposing factors; description and mean measures for all respondents; by use of general practitioner services

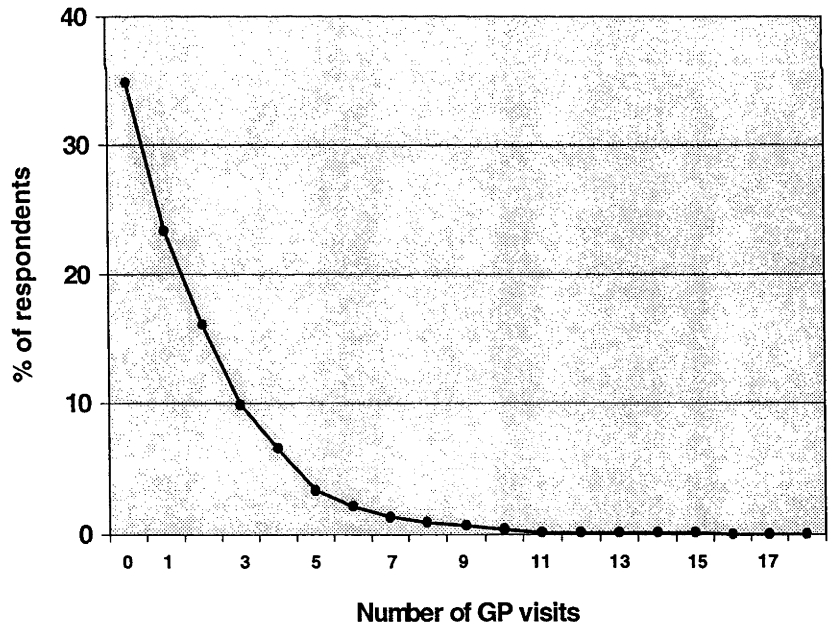
Variable	Description	Measure for: Total cohort	those who obtained: no GP services (N=761) (a)	those who obtained: any GP services (N=1423) (b)	Pooled SD for (a) and (b)
Predisposing:					
Sex (female)	% female	51.6	34.7	60.3*	0.48
Higher education	% undertaking or completed higher education	81.5	82.4	82.1	0.38
Having children	% with one or more children	10.1	7.0	11.5*	0.30
Married/de facto	% married or in de facto relationship	23.3	20.0	25.7*	0.42
Separated/divorced	% separated or divorced	1.0	0.1	1.3*	0.08
Adverse life events	Mean number of adverse life events in past 12 months	1.8	1.6	1.9*	0.13
Enabling:					
Unemployed	% unemployed	10.5	10.9	9.9	0.30
Financial problems	% with financial problems	27.2	21.2	29.6*	0.44
Student health services	% studying full-time	26.1	28.1	25.4	0.44
Need:					
Mental health needs					
CIDI depressive disorder	Mean probability of having CIDI-SF diagnosis of depression (score from 0-7)	1.6	1.2	1.8*	0.13
Suicidal ideation	Mean suicidal ideation score (0-5)	0.6	0.5	0.7*	0.08
CIDI-SF generalised anxiety disorder	% with CIDI-SF diagnosis of generalised anxiety disorder	9.0	5.6	10.8*	0.27
Alcohol use - abstain	% abstaining from alcohol in past 12 months	8.3	6.7	8.6	0.27
Alcohol use - high	% drinking at hazardous or harmful level	6.3	5.5	6.8	0.24
Cigarette use	% smoking more than 10 cigarettes daily	17.5	16.2	17.1	0.37
Marijuana use	% using marijuana at least once every 4 mths	17.6	17.0	18.4	0.38
EPQ-R Neuroticism score	mean score of the EPQ-R Neuroticism scale	4.8	4.1	5.2*	0.21
MCS-12	mean score on SF-12 mental health scale	47.1	49.0	46.0*	0.50
Physical health needs					
PCS-12	mean score on SF-12 physical health scale	53.0	54.4	52.3*	0.50
Chronic diseases	count of chronic diseases	0.3	0.2	0.3*	0.05
Oral contraception	% using oral contraception	27.1	13.7	34.2*	0.43

* Mean measures for those who obtained no GP services and those who obtained any significantly different at the 0.05 level.

considered. Possible models for the regression analyses would include linear, Poisson and negative binomial regressions. Selection of the most appropriate regression model would depend on the distribution of the dependent variable, that is, the number of general practitioner services obtained (Gardner et al, 1995; Statacorp, 1999).

The skewed distribution of general practitioner visits (Figure 10) suggested that a linear regression model, based on the assumption of normally distributed data, would be inappropriate as the choice of statistical model for these data (Gardner et al, 1995; Lindsey and Jones, 1998). Initial testing of the goodness-of-fit of a Poisson model to these data also signaled the problem of overdispersion in the model,

Figure 10: Number of visits made to general practitioners in the six months preceding the PATH interview



indicating greater variability of measures than would be expected if the data fitted a Poisson model (Gardner et al, 1995; Statacorp, 1999). It could not be confidently assumed that general practitioner visits are randomly distributed across PATH20 participants, as would be required to be the case in the Poisson model (Lindsey and

Jones, 1998). A negative binomial regression model was thus selected as providing the best fit for these data. The analyses were undertaken using the statistical packages SPSS 6.1.2 and Stata Release 6 (Statacorp, 1999).

Results

Of the 2,184 participants for whom Medicare information was available, 1,423 (65%) saw a general practitioner at least once in the six months preceding the PATH interview. The number of visits to general practitioners during that time ranged from zero to 34 while the mean number of visits was 1.79. Table 30 included mean measures of each of the predictor variables for the cohort as a whole and for the two subgroups: those who obtained no services and those who saw a general practitioner one or more times. As seen in Table 30, compared with those who did not obtain general practitioner services during this period, the subgroup who saw a general practitioner included higher percentages of women, those with children, those who were married or in a de facto relationship, but also those who were separated or divorced. Service users were also more likely to report adverse life events in the past six months or that they had experienced financial problems during the past 12 months. On average, those who used services also had more mental health problems as scored on various mental health measures including probability of diagnosis of CIDI-SF depression, level of suicidal ideation, CIDI-SF generalised anxiety disorder, EPQ-R neuroticism score, and MCS-12, the mental health score from the SF-12 survey. Those who saw a general practitioner reported worse mean measures of physical health and, as would be expected, were more likely to use prescribed oral contraceptives.

Univariate regression analyses using the negative binomial model were then undertaken (see Table 31). In this model, the coefficient *c* derived for a predictor variable may be more easily interpreted if it is identified as an incidence rate ratio

(e^c; Korten et al, 1998; Statacorp, 1999). This ratio provides a measure of the expected change in the dependent variable, as a result of a one-unit change in a predictor variable. For example, the incidence rate ratio of 1.95 for the variable being female (Table 31) indicates that young women were almost twice as likely as their male counterparts to have obtained general practitioner care. Table 31 provides

Table 31: Incidence rate ratios for associations between predisposing, enabling and need factors and numbers of visits to general practitioners

Predictor variables	Negative binomial regression model - Incidence rate ratios and 95% confidence intervals for:	
	Univariate regression	multiple regression
Predisposing:		
Sex (female)	1.95 (1.77 - 2.16)*	1.57 (1.39 - 1.77)*
Higher education	0.93 (0.82 - 1.06)	1.05 (0.92 - 1.20)
Having children	1.54 (1.31 - 1.82)*	1.18 (1.00 - 1.40)
Married/defacto	1.25 (1.11 - 1.41)*	1.10 (0.98 - 1.24)
Separated/divorced	2.05 (1.24 - 3.38)*	1.12 (0.71 - 1.76)
Adverse life events	1.10 (1.06 - 1.13)*	1.02 (0.99 - 1.05)
Enabling:		
Unemployed	0.93 (0.78 - 1.10)	0.85 (0.72 - 1.00)
Financial problems	1.51 (1.35 - 1.69)*	1.15 (1.02 - 1.28)*
Student health services	0.91 (0.81 - 1.03)	0.98 (0.87 - 1.10)
Need:		
Mental health needs		
CIDI-SF depressive disorder	1.08 (1.06 - 1.10)*	0.99 (0.97 - 1.02)
Suicidal ideation	1.17 (1.13 - 1.22)*	1.07 (1.02 - 1.17)*
CIDI-SF generalised anxiety disorder	1.92 (1.63 - 2.26)*	1.14 (0.97 - 1.35)
Alcohol use-abstain	1.32 (1.10 - 1.58)*	1.31 (1.10 - 1.55)*
Alcohol use – high	0.98 (0.79 - 1.21)	0.91 (0.75 - 1.11)
Cigarette use	1.17 (1.02 - 1.34)*	0.95 (0.83 - 1.09)
Marijuana use	1.15 (1.01 - 1.32)*	1.12 (0.98 - 1.27)
EPQ-R Neuroticism score	1.08 (1.06 - 1.10)*	1.00 (0.98 - 1.02)
MCS-12	0.98 (0.97 - 0.98)*	0.98 (0.98 - 0.99)*
Physical health needs		
PCS-12	0.97 (0.96 - 0.97)*	0.97 (0.96 - 0.98)*
Chronic diseases	1.35 (1.23 - 1.49)*	1.15 (1.05 - 1.26)*
Oral contraception	1.62 (1.45 - 1.81)*	1.23 (1.09 - 1.40)*

* $p<0.05$

MCS - score on SF-12 mental health scale
PCS - score on SF-12 physical health scale

incidence rate ratios and 95% confidence intervals for the univariate and multiple regressions for each of the 21 predictor variables being examined in these analyses.

Predisposing and enabling variables associated with seeing a general practitioner

As seen from Table 31, in the univariate regression, five out of the six predisposing variables were significantly associated with seeing a general practitioner. PATH20 participants who were female saw a general practitioner twice as often as did their male coonterparts. Being separated or divorced was also associated with a similar level of increase in use of general practitioner services while, not unexpectedly, numbers of services used by respondents with children could be expected to be 50% higher than those who had no dependents. When all independent factors were considered simultaneously, however, only one predisposing variable was associated with seeing a general practitioner: being female. After controlling for all other measures, women in this cohort could still be expected to visit a general practitioner over 50% more often than young adult men.

Only one of the enabling variables was found to be significantly associated with obtaining general practitioner care. Those with financial problems were more likely to have seen a general practitioner, relative to those without such concerns. Once other factors were included this association, while still significant, was much weaker.

Need variables associated with seeing a general practitioner

When predictor variables were considered in isolation, all but one of these need-related variables (hazardous or harmful use of alcohol) was found to be associated with seeing a general practitioner. Those with CIDI-SF diagnosed generalised anxiety disorder were almost twice as likely to have obtained such care, compared with those without this mental health problem.

When all factors were considered simultaneously, severity of suicidal ideation, abstaining from alcohol, and mental health problems as measured by the SF-12 remained significantly associated with obtaining help from a general practitioner. In addition, the three physical health measures continued to be significantly associated with obtaining such care.

Testing for interaction effects

Given the relative importance of gender as a predictor variable identifying which young adults obtain help from a general practitioner, further analysis was undertaken to identify possible interactions between being female and the other predictor variables that had been included in the regression equations. This additional analysis could indicate whether the help-seeking effects of other predictor variables were different for young men and young women. Nineteen interactive terms were considered with the variable indicating use of oral contraceptives omitted since this corresponded perfectly with gender.

These analyses used a model-building algorithm applicable to maximum likelihood functions and applied the likelihood ratio test to determine whether the inclusion of further predictor variables in the model contributed significantly to predicting the dependent variable (see, for example, McCullagh and Nelder, 1985). The statistic $G = -2(LL_{(n)} - LL_{(n+m)})$ is assumed to follow a Chi-square distribution with m degrees of freedom, where $LL_{(n)}$ is the log likelihood of the model with n predictor variables and $LL_{(n+m)}$ the log likelihood with the inclusion of an additional m variables in the model (Hosmer and Lemeshow, 1989). If the additional m variables make a significant contribution to the explanatory model, calculated G will exceed the value of the Chi-square distribution, $p = 0.05$, degrees of freedom, m.

The initial application of this method assessed the significance of including all gender interaction terms in the model and confirmed that inclusion of at least

some of these variables contributed significantly to the model. The most significant of these interaction terms - gender by hazardous or harmful consumption of alcohol, and gender by severity of suicidal ideation - were then included in the model. Further testing confirmed that none of the remaining interaction terms contributed significantly to explaining young adults' use of general practice care. The results of this analysis are given in Table 32.

A number of the associations identified between predictor variables and use of general practitioners persisted when the two interaction terms were incorporated in the model. Being female, having financial problems, more severe suicidal ideation, abstaining from alcohol, having poorer mental and physical health as measured by SF-12, having more chronic diseases and taking contraception continued to be positively associated with using such services. Significant associations were now found between service use and two more predictor variables. Those consuming hazardous or harmful levels of alcohol were significantly less likely to have used such services. While there was little change in the trend for unemployed individuals to have not used such care, this association now became weakly significant. Those with a higher gender-suicidal ideation interaction score were less likely to have obtained help, while those with a higher problem alcohol-gender score were more likely to have seen a general practitioner. Figures 11 and 12 illustrate the differences in mean numbers of general practitioner services by men and women by their scores on these two mental health need variables. Each of these significant interaction terms is now considered in more detail.

Gender-high alcohol consumption interaction

For the sample as a whole, those who drank to hazardous or harmful levels were less likely to use general practice services. As seen from Figure 13, however, this association was mainly attributable to patterns of health service use by young

Table 32: Incidence rate ratios for associations between predisposing, enabling and need factors and numbers of visits to general practitioners : including gender interaction effects	
Predictor variables	**Negative binomial multiple regression - Incidence rate ratios and 95% confidence intervals for:**
Predisposing:	
Sex (female)	1.64 (1.43 - 1.88)*
Higher education	1.06 (0.93 - 1.21)
Having children	1.19 (1.00 - 1.40)
Married/defacto	1.10 (0.98 - 1.24)
Separated/divorced	1.12 (0.71 - 1.77)
Adverse life events	1.02 (0.98 - 1.05)
Enabling:	
Unemployed	0.84 (0.71 - 0.98)*
Financial problems	1.15 (1.02 - 1.28)*
Student health services	0.98 (0.88 - 1.10)
Need:	
Mental health needs	
CIDI-SF depressive disorder	1.00 (0.97 - 1.02)
Suicidal ideation	1.25 (1.10 - 1.41)*
CIDI-SF generalised anxiety disorder	1.15 (0.97 - 1.36)
Alcohol use-abstain	1.32 (1.11 - 1.56)*
Alcohol use - high	0.40 (0.19 - 0.82)*
Cigarette use	0.95 (0.84 - 1.09)
Marijuana use	1.12 (0.98 - 1.27)
EPQ-R Neuroticism score	1.00 (0.98 - 1.02)
MCS-12	0.98 (0.98 - 0.99)*
Physical health needs	
PCS-12	0.97 (0.96 - 0.98)*
Chronic diseases	1.14 (1.05 - 1.25)*
Oral contraception	1.23 (1.09 - 1.39)*
Interaction terms	
Gender by Suicidal ideation	0.91 (0.84 - 0.97)*
Gender by Alcohol use - high	1.65 (1.09 - 2.50)*

* $p<0.05$

men who consumed alcohol to hazardous or harmful levels in the past 12 months. This subgroup used fewer general practitioner services, when compared with other young men in the sample (mean service count 0.85 compared with 1.22) whereas

young women who drank to such levels obtained, on average, significantly more services than their male colleagues or women who reported lower levels of alcohol consumption (2.51 compared with 2.34).

Figure 11: Mean number of general practitioner services used by men and women by hazardous or harmful levels of alcohol consumption

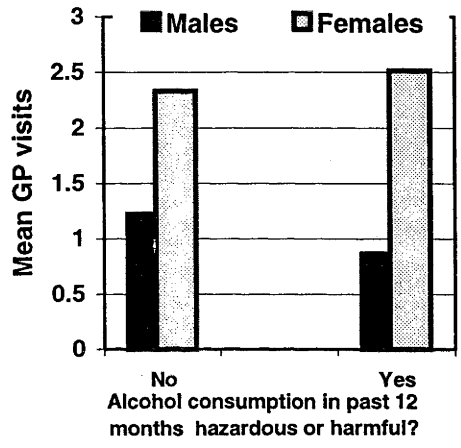
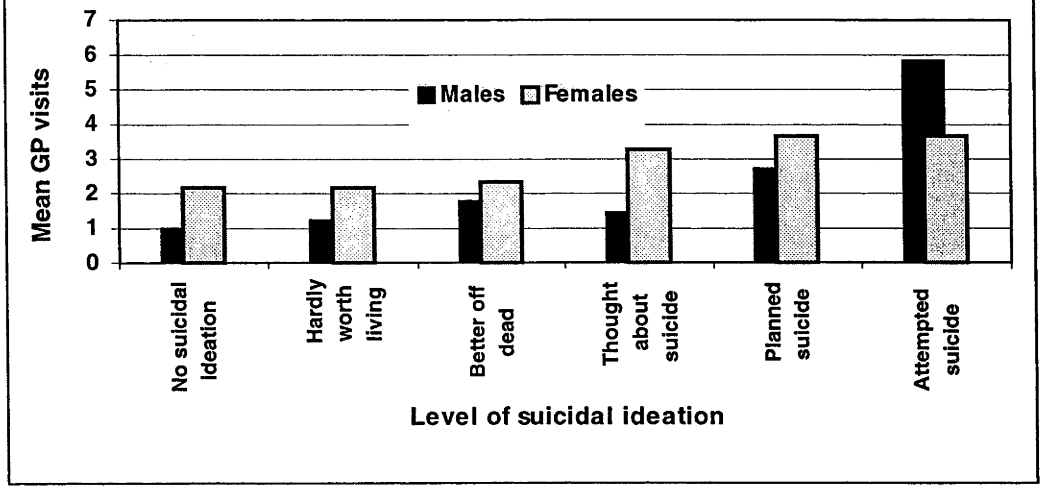


Figure 12: Mean general practitioner services used by men and women by level of suicidal ideation



Gender-suicidal ideation interaction

The second interaction term concerned suicidal ideation. Individuals with lower suicide ideation by gender scores used more services compared with others in the sample. Those with lower scores would be more likely to be men or women with less severe suicidal ideation. As seen in Figure 12, while there was some increase in service use by women with more severe suicidal ideation, this increase was relatively moderate, compared with the large increase in service use of men who were more suicidal, in particular, those men who attempted suicide. The average number of visits made by men who reported that they had attempted suicide in the past 12 months was higher than that for any other subgroup. As discussed later, however, there are various reasons why these findings need to be considered cautiously.

Discussion

This chapter examined data on general practitioner services used by a cohort of young adults who participated in the PATH Through Life Project in the Australian Capital Territory and Queanbeyan, NSW. The analyses of these data sought to identify need, predisposing and enabling factors associated with respondents obtaining services in the six months preceding their PATH interview. Information on services obtained was collected by the Health Insurance Commission and was provided to the Centre for Mental Health Research as counts of general practitioner consultations for each of the 2,184 respondents who agreed to allow access to this information. No details on the types of care provided during each consultation were available.

As a count of services was provided, Poisson and negative binomial regression models were considered as possible statistical tools for analysing these data. Examination of the distribution of service counts and preliminary comparison

of results indicated that the negative binomial regression model, which adjusted for overdispersion, would be the better choice. Twenty-one predictor variables were included in the analysis, again grouped as predisposing respondents to seek health care, enabling them to obtain such care or identifying their mental and physical health care needs. Further analysis was undertaken to examine the contribution of this set of 21 predictor variables and gender interaction terms. Since gender was perfectly associated with taking oral contraception, that interaction term was omitted.

Predisposing and enabling factors associated with use of general practice services

When predictor variables were considered in isolation, five of the six predisposing variables were significantly associated with respondents having used more services. Compared with men, women were twice as likely to have obtained such care. Participants who had children used half as many services again compared with those without dependents. Similarly, those who reported financial problems in the past 12 months were found to have seen a general practitioner about 50% more often than those without such problems. Young women continued to obtain more general practitioner care than young men, after measures of need were taken into account. While having financial problems was also significantly associated with higher levels of care, the impact of this factor was relatively small. Those with such problems using 15% more services, that is, around seven services for each six obtained by those without such problems. The stepwise multiple regression which tested the contribution of gender interaction terms to the predictor model found two non-need variables to be positively associated with obtaining general practice care: being female and having financial problems. A third non-need factor, being unemployed, had a weak significant negative association with use of such services.

Need factors associated with use of general practitioner services

When factors associated with general practitioner care were considered in isolation, individuals who reported any of the physical and mental health needs, with one exception, were more likely to have obtained care compared with those without that particular need. Respondents who consumed alcohol to hazardous or harmful levels were less likely to have obtained care. When all need, enabling and predisposing factors were considered simultaneously, six measures of need continued to be significantly associated with having seen a general practitioner. Three of these measures concerned physical health needs, and two identified mental health problems: the mental health score on the SF-12 and severity of suicidal ideation. Reasons for the sixth measure, abstaining from alcohol, to be associated with higher service use are not immediately obvious. Those abstaining from alcohol have been found previously to have higher levels of distress and depression (Caldwell et al, 2002; Rodgers et al, 2000). Andreasson (1998) has suggested that abstainers are likely to include a high percentage of past problem drinkers who continued to have relatively poor physical and mental health. However, in this analysis, the finding that abstainers obtained more services has persisted after taking into account both mental and physical health needs. A closer examination of this finding would need to draw on more detailed data concerning the types of care sought and obtained by this subgroup.

When the varying impacts of these predictor variables on men and women were taken into account, different findings emerged. Overall, those in the sample who consumed excessive levels of alcohol were less likely to have seen a general practitioner, although women drinking to this level were more likely to have obtained help, compared with both females who drank more moderately and men who drank hazardous or harmful amounts.

Across the sample as a whole, those with suicidal ideation were more likely to obtain help. Men with more severe levels of ideation, or who had attempted suicide, were significantly more likely to have seen a general practitioner, compared with their less suicidal male counterparts. This increase in services used was also higher than the corresponding increase by women with severe suicidal ideation. Possible interpretation of these findings, however, is limited for a number of reasons. The number of men and women in this suicidal ideation category was small, 12 and 18 respectively. While predisposing and enabling factors, and some measures of need, for example, EPQ-R Neuroticism score, are relatively stable measures, a measure such as suicidal ideation is likely to be more time-limited. In particular, suicidal attempt identifies a specific crisis point that cannot have continued without resolution. Further, the ordering of suicidal attempt and general practitioner visits cannot be determined. It may be that young adults who used high numbers of services had attempted suicide in the first six months of the12-month period and had then seen a general practitioner regularly to address their problems after this crisis. Alternatively, the suicide attempt could be a last effort to have their need for help recognised after numerous visits to their general practitioner failed to achieve this goal. More detailed information on why, and at what stage, general practitioner services were obtained is needed if a clearer understanding of the help-seeking behaviours associated with suicidal ideation in this age group are to be obtained.

The PATH Through Life Project does provide the opportunity for such exploration. All respondents in the PATH20 cohort who reported depressive symptoms were asked about their seeking help from doctors and other health practitioners to deal with these problems. Analysis of responses to those questions and of responses relating to suicidal ideation could identify the extent and type of

relationship between having suicidal thoughts and help-seeking behaviours by young men and women who felt depressed.

Data on a second cohort of PATH participants, aged 40 to 44 years, were also made available for this study. While it was not possible to obtain HIC information on use of general practitioner care by this cohort during the time-frame of this study, the data set collected from these older participants by means of the PATH interview was available. This provided the opportunity to compare help-seeking behaviours reported by respondents in these two age groups. These analyses will be reported in the following chapter.

There is a final comment to make on these findings. It was noted at the beginning of this chapter that the two mental health problems that have received considerable government resources are suicidal ideation and substance abuse. These findings confirm that both of these problems have significant, but quite different, associations with current patterns of help-seeking by young adults. Those with suicidal ideation are more likely to be using services, though not necessarily for this problem. Young adults drinking alcohol to hazardous and harmful levels, however, have been identified as avoiding such help.

Conclusion

This study has found that, in a cohort of young adults, a number of mental health factors are associated with consulting a general practitioner. The predisposing factor, being female, has a considerable effect on this help-seeking behaviour, although the impact of women's predisposition to seek help is also influenced by the types of mental health problems being experienced. These findings suggest that strategies encouraging young adults to seek needed health care may work best when they adopt gender-specific orientations.

Chapter Seven:

Need, predisposing and enabling factors associated with individuals with suicidal ideation seeking help for their depressive symptoms from the formal health care system

Chapter Seven Abstract

Following from the previous chapter's exploration of general medical services obtained by a cohort of young adults, this chapter examines the extent to which individuals drawn from that PATH20 cohort and from a second PATH40 cohort of middle-aged Australians obtained needed mental health help. The particular sub-groups reported experience of suicidal ideation and depressive symptoms during the 12 months preceding their participation in the PATH Through Life Project. The Andersen behavioural model again provided the framework for analysis that addressed the question: *in each of these age groups, to what extent are need, predisposing, enabling and health practitioner factors associated with those with suicidal ideation and symptoms of depression who obtain help for their problems?* Simple and multiple logistic regressions were again used to identify predictor variables that were associated with self-reported utilisation of mental health care.

After controlling for measures of need, only two non-need predictor variables distinguished PATH20 respondents who obtained help for their depressive symptoms from those in their age group who did not: being female and having previously obtained such care. Of those in the PATH40 cohort who experienced suicidal ideation and depressive symptoms, individuals who sought help were differentiated by their having previously obtained such care. Those in this older age group who had experienced symptoms previously and sought help

were significantly more likely to report that they had seen a health practitioner about their problems this time around. The predisposing factor, being female, was not significantly associated with obtaining help in this cohort. Two useful mental health policy findings can be drawn from these results. Firstly, women's predisposition to use mental health services may not hold for all age groups in the community. Secondly, the practical experience of receiving mental health help may have a positive outcome of improving acceptability of, and thus reducing barriers to, such care in the future. However, these findings also suggest that decisions to not obtain formal help when experiencing depressive symptoms may become more entrenched as individuals grow older. Further research is needed to ascertain whether mental health help-seeking behaviours are open to change and, if so, under what circumstances.

Introduction

This chapter explores questions arising from the findings of the previous chapter: *to what extent do those with suicidal ideation seek mental health help for their problems? In particular, how do men and women differ in their help-seeking behaviours when they feel suicidal?* It was found in Chapter Three that, when all age groups were combined, women were more likely than men to obtain mental health help. The previous chapter confirmed that this same gender difference occurred when a cohort of young adults obtained services from a general practitioner. In the latter case, however, the predisposition of women to obtain general medical care was affected by the co-existence of particular measures of mental health need including suicidal ideation. As noted previously, one limitation of that analysis was the partial correspondence between the periods of general practitioner care and of suicidal

ideation. Another perspective on the gender-specific patterns of help-seeking exhibited by those with suicidal ideation may be drawn by selecting the sub-set with such ideation and exploring the extent to which these individuals report seeking help for related symptoms during that time.

Such an examination could be conducted as part of this study using data collected from the cohorts of young and middle-aged adults who participated through the PATH Through Life Project. Details on the PATH Project and survey participants has been provided previously. The analyses reported in this chapter explore the following questions:

- *In a subset of young adults with mental health needs (reporting suicidal ideation and depressive symptoms), to what extent do predisposing, enabling and other need factors impact on their use of mental health care?*
- *In a subset of middle-aged adults with mental health needs (reporting suicidal ideation and depressive symptoms), to what extent do predisposing, enabling and other need factors impact on their use of mental health care?*
- *To what extent does the impact of predisposing, enabling and need factors vary between these two age groups?*

The hypothesis to be tested in this chapter is that:

- **in adults with suicidal ideation, utilisation of formal health services to help alleviate symptoms of depression will be associated with severity of suicidal ideation and other measures of mental health need; no predisposing or enabling variables will be found to be associated with use of formal health care for this purpose.**

The next section considers briefly recent findings concerning suicidal ideation and services used by those with such ideation in the Australian community, in particular

those in comparable age ranges. It then reviews studies that have examined help-seeking behaviour exhibited by those with suicidal ideation and the factors that have been found to affect such behaviour. The remainder of this chapter then describes data items to be analysed, the statistical tools to be used in these analyses, summarises the results and discusses some of the implications of these findings as they concern the equitable provision of mental health care in Australia.

Suicidal ideation in Australia's adult population

While the number of suicides by Australians is reported annually by the government as a vital statistic (Australian Bureau of Statistics, 2000), information on levels of suicidal ideation and unsuccessful suicidal attempts has been more infrequent. An overview of that information can be difficult, given that those reporting suicidal ideation can use quite different collection methods, different suicidality measures and covered different time periods. Table 33 lists details and findings of three reports of suicidal ideation in the Australian community. The instrument used by Statham et al (1998) sought information only on lifetime suicidality. While information over the lifetime was collected in the National Survey, it was asked only of those who responded in the affirmative to the two probe questions of the CIDI - having felt sad, empty for nearly every day or having lost interest in work, hobbies and things usually enjoyed for at least a two week period. The South Australian survey reported by Goldney and colleagues (2000) was collected by telephone and referred to 'recent' experience of suicidality. The variability of the methods applied in these three papers makes it difficult to give an actual rate of suicidal ideation in the general Australian population.

Suicidal ideation in specific age groups

Considerably more research has been undertaken on suicidal ideation reported by specific subgroups of the population, in particular, adolescents and

Table 33: Summary of findings concerning suicidal ideation in the Australian community			
Details	**Study reported by:**		
	Statham et al, 1998	**Pirkis et al, 2000**	**Goldney et al, 2000**
Year of study	1992-93	1997	Not specified
Data set	Australian NHMRC* Twin Registry	National Survey of Mental Health and Well-being	Survey undertaken for the study
Area covered	Australia	Australia	South Australia
Number of participants	5,995	10,641	2,501
Selection of respondents for questions of suicidal ideation	Adult twins registered with the volunteer NHMRC Twin Registry; All respondents	Stratified random sample of Australian adults aged 18 and over; only those answering yes to two CIDI probe questions were then asked questions about suicidality	Random selection households from electronic White Pages; random selection of adult aged 18 and over in each household; All respondents
Contact with participant	Face-to-face interview	Face-to-face interview	Telephone interview
Measure of suicidal ideation	Four levels of suicidality: - suicidal thoughts - persistent suicidal thoughts - suicidal plans - suicidal attempts	Two levels of suicidality: - thoughts of suicide, no attempt - attempted suicide	Four questions from 28-item GHQ#: - Life not worth living - Wish you were dead - Thoughs of suicide - Persistent thoughts of suicide
Time period covered by question	Lifetime	Last 12 months, Lifetime	Specified only as being 'recent'
Findings for:			
Men	23.8% of participants reported at least one level of lifetime suicidal thoughts	2.7% last 12 months 13.2% lifetime	5.6% 'recent'
Women	22.2% of participants reported at least one level of lifetime suicidal thoughts	4.0% last 12 months 18.2% lifetime	5.3% 'recent'

* NHMRC - National Health and Medical Research Council

\# GHQ - General Health Questionnaire

young adults. Numerous reports and initiatives attest to governments' concerns about increased rates of completed suicides amongst young adult men in Australia (Cantor and Neulinger, 2000; Commonwealth Department of Health and Aged Care, 1997). Goldney and colleagues (1989) examined levels of suicidal ideation reported by a cohort of young Australian adults who had attended 12 randomly chosen

metropolitan secondary schools in Adelaide in 1980. Suicidality was again measured by participants' responses to questions in a postal survey concerning recent suicidal ideation in the GHQ-28. The authors concluded that in this sub-population, 11.7% of men and 9.7% of women could be considered to have suicidal ideation. The rates given in a more recent report by Schweitzer, Klayich and McLean (1995) were considerably higher but concerned a very specific subgroup of young adults - university undergraduate psychology students.

In comparison there has been relatively little focus on suicidal ideation experienced by adults of middle age. Maris (1995) writing of suicidal ideation in those aged 30 to 65 noted that little was known of midlife suicides. This same limitation still applies although some newer studies have examined this age group. Goldney et al (2000) assessed the risk of suicidal ideation in those aged 35 to 54, relative to those aged 55 and over, to be 1.44 (95% CI: 0.96 - 2.14). Those aged 15 to 34 years had a comparable relative risk of 1.37 (95% CI: 0.85 - 2.21).

Factors associated with suicidal ideation

Various writers have reported findings on factors associated with suicidal ideation and attempts. These could be considered in three categories: mental health problems, personality factors, and sociodemographic variables. Unsurprisingly, suicidal ideation is commonly found associated with common mental disorders of clinical depression and anxiety (Bronisch and Wittchen, 1994; Goldney et al, 2000; Pirkis et al, 2000) although Ahrens and Linden (1996) have argued that there could well be a suicidal syndrome not connected with either of these disorders. Those with a family history of suicidal thoughts and behaviours have also been identified as more likely to report such ideation (Murphy and Wetzel, 1982). Goldney et al (2000) found experiences of psychosocial and traumatic events to be associated with such ideation. Suicidal thoughts have also been found to be more common amongst

individuals with low self-esteem, poor problem-solving skills and those who are generally pessimistic or hopeless (Beck, 1986; Goldney et al, 1991; Van Gastel et al, 1997; Vilhjalmsson et al, 1998). Individuals who were unmarried, divorced or in a de facto relationship were also more likely to have reported suicidal feelings as were those who were unemployed (Goldney et al, 2000; Kjoller and Helweg-Larsen, 2000; Pirkis et al, 2000).

Seeking help when feeling suicidal

Governments in Australia and elsewhere have noted the key role to be played by health practitioners if there is to be a reduction in the number of suicides successfully completed. A range of initiatives focusing on improving recognition, diagnosis and treatment of mental disorders particularly those experienced by adolescents and young adults has been developed (Commonwealth Department of Health and Aged Care, 1997; Pfaff et al, 2001). Such strategies can only be effective, however, if the at-risk population being targeted for health care uses the services that are being offered.

A number of studies have examined the levels of health care utilisation that precede completed suicides. Pirkis and Burgess (1998) have undertaken a systematic review of those findings. Research to date, on help-seeking activities undertaken by those with suicidal ideation or on the factors associated with such help-seeking, has received less attention. In a more recent paper reporting further analyses of the National Survey, Pirkis and colleagues (2001) found that 245 or two-thirds of respondents with suicidal ideation had reported using health care services for mental health reasons over the same 12-month period. Deane, Wilson and Ciarrochi (2001) asked university students about their help-seeking intentions should they experience suicidal thoughts. Friends were nominated as the most likely source of help while seeking help from a doctor or general practitioner was rated least likely of the help-

seeking behaviours. Having higher levels of suicidal ideation was associated with help-negation; that is having a greater unwillingness to obtain help, a finding that has been reported previously (Carlton and Deane, 2000; Rudd et al, 1995; Saunders et al, 1994). One factor that has been found to be positively associated with seeking help when experiencing suicidal ideation is prior experience of help-seeking for mental health problems, provided that the help was perceived to be beneficial (Deane and Todd, 1996; Deane et al, 2001).

The PATH data available for this study provided the opportunity to examine more closely factors associated with help-seeking by those with suicidal ideation. From the perspective of the Andersen behavioural model, the analyses reported in this chapter explore associations between obtaining help from a health practitioner when experiencing suicidal ideation and predictor variables measuring predisposing, enabling and need factors. These analyses also included two additional predictor variables concerning the past experience of depressive symptoms and help-seeking for those problems. As noted earlier, those who have previously used health services for depressive symptoms have been found to be more likely to obtain such help again (Deane et al, 2001; Greenley et al, 1987; Wells et al, 1990). Previous experience of mental health care may operate as an enabling factor, for example, allowing consumers with such experience to describe their symptoms more clearly or know how to ask for such help. However, it could also be that this association is the result of the prior experience of depressive symptoms, instead of, or in addition to, any earlier experiences of help-seeking. The second predictor variable, then, identified those who reported having earlier symptoms for which they had not obtained formal help. Previous applications of the Andersen model to explore factors associated with help-seeking when experiencing suicidal ideation were not identified in the peer-reviewed literature.

Methodology

Data items

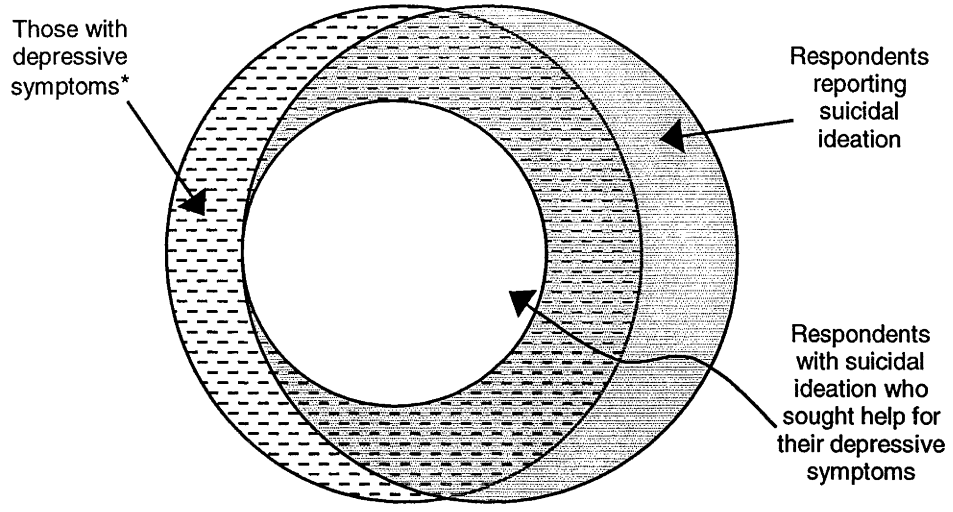
Measures of need and help-seeking

The subsets of PATH participants whose help-seeking behaviours are being investigated in this chapter were those in need of mental health help as identified by their reporting experience of some level of suicidal ideation during the past 12 months. The five point grading of severity of suicidal ideation was described in the previous chapter.

Should individuals with suicidal ideation seek formal help, it could be expected that they would present their problems in terms of the more encompassing experiences of depressive symptoms rather than the feelings of suicidality *per se.* Information about their help-seeking, then, was drawn from their responses concerning experience of, and seeking treatment for, depressive symptoms. All participants in these subsets were asked whether, during the same 12 month period, they had experienced symptoms of depression, either by feeling sad, down or depressed or having lost interest in most things like hobbies, work or activities. Those whose experience of such symptoms lasted more than half each day over the worst two week period during that 12 months were then asked questions about their telling a doctor or other professional about this problem. A diagram indicating the likely overlap between suicidal ideation, depressive symptoms and help-seeking is provided in Figure 13.

In reply to the initial question concerning symptoms, respondents in the PATH20 cohort could choose a third reply that they were on medication for depression. Those who selected this response option were not questioned further about their depressive symptoms or their use of health services in dealing with this problem. For the analyses reported here, those who self-identified as taking

Figure 13: Depiction of the selection of PATH respondents with suicidal ideation who reported seeking help for their depressive symptoms



* Depressive symptoms that persisted for more than half each day over the worst two week period in the 12 months.

medication for depression were assumed to have experienced depressive symptoms for at least half each day over a minimum two-week period. It was also assumed that they had seen a medical practitioner about their problem (for example, to obtain a prescription for anti-depressants) at least once during the past 12 months. This problem did not occur with the PATH40 cohort where all respondents who self-identified as having some depressive symptoms were asked about the duration and intensity of those symptoms and their seeking professional help.

Predictor variables in the analysis

For the most part, the predisposing, enabling and need-related variables included in this chapter's analysis were described in the previous chapter. Two of these variables, having children and use of oral contraceptives which were used as indicators of need for general medical care were excluded from analysis of both cohorts. Two enabling predictor variables, having previously experienced depressive symptoms but obtained no help, and having previously obtained help for depressive

symptoms, were included in the analysis. The statistical packages SPSS 6.1.2 and STATA Release 6 (Statacorp, 1999) were again used to obtain descriptive statistics from, and to undertake logistic regression analyses on, these data sets.

Results

From the PATH20 cohort of 2,404 participants, 616 (25.6%) reported experiencing some level of suicidal ideation in the past 12 months. Within the sub-set of those with suicidal ideation, 484 respondents, 20.1% of the total sample, reported that in the past year, they had taken medication for depression, or that they experienced depressive symptoms that lasted for more than half each day over a period of at least two weeks. This subgroup of 484 respondents was then asked questions about their use of health care for depressive symptoms during the past 12 months or were assumed to have used such care if they were taking medication for depression. Two hundred (41.3%) of those with suicidal ideation and depressive symptoms reported that they obtained help for their problems.

In the PATH40 project, 489 respondents (19.3% of the total cohort of 2,530 participants) reported some suicidal ideation over the 12 months preceding their interview, while 315 of this group (12.5% of the total sample), reported experiencing depressive symptoms that lasted for more than half each day over of a period of at least two weeks. Again, these 315 respondents were asked questions about their use of health care for their depressive symptoms. Tables 34 and 35 provide cumulative percentages of respondents from PATH20 and PATH40 respectively who reported different levels of suicidal ideation and also includes a gender breakdown of these figures. Somewhat surprisingly, 132 (21.4%) of PATH20 respondents and 173 (35.4%) of PATH40 respondents reported some level of suicidal ideation but were not assessed as having depressive symptoms. The next analysis examined the levels

Table 34: PATH20 project: number of respondents reporting suicidal ideation in the 12 months preceding the interview, by experience of depressive symptoms* in that period

Respondents considered: All respondents	Number and percentage (95% confidence interval) to report that: Felt life hardly worth living	Felt better off dead	Thought about taking own life	Planned to take own life	Attempted to take own life
Men (N=1163)	291	196	145	41	14
	25.0(22.5 - 27.5)	16.9 (14.7- 19.1)	12.5 (10.6-14.4)	3.5 (2.4 - 4.6)	1.2 (0.6 - 1.8)
Women (N=1241)	325	232	165	54	20
	26.2 (23.8- 28.6)	18.7 (16.5-20.9)	13.3 (11.4-15.2)	4.4 (3.3 - 5.5)	1.6 (0.9 - 2.1)
Total (N=2404)	616	428	310	95	34
	25.6 (23.9-27.3)	17.8 (16.3-19.3)	12.9 (11.6-14.2)	4.0 (3.2-4.8)	1.4 (0.9 - 1.9)
Those with depressive symptoms *					
Men (N=465)	220	152	115	37	12
	47.3 (42.8 -51.8)	32.7 (28.4-37.0)	24.7 (20.8-28.6).	8.0 (5.5-10.5)	2.6 (1.1-4.1)
Women (N=584)	264	200	146	52	18
	45.2 (41.1- 49.2)	34.2 (30.4-38.0)	25.0 (21.5-28.5)	8.9 (6.6-11.2)	3.1 (1.7 - 4.5)
Total (N=1049)	484	352	261	89	30
	46.1 (43.1- 49.1)	33.6 (30.7 -36.5)	24.9 (22.3 -27.5)	8.5 (6.8 - 10.2)	2.9 (1.9 - 3.9)

* Reporting feeling sad or having lost interest for more than half each day over a minimum two week period during that 12 months or took medication for depression during that time

Table 35: PATH40 project: number of respondents reporting suicidal ideation in the 12 months preceding the interview, by experience of depressive symptoms* in that period

Respondents considered: All respondents	Number and percentage (95% confidence interval) to report that: Felt life hardly worth living	Felt better off dead	Thought about taking own life	Planned to take own life	Attempted to take own life
Men (N=1192)	213	143	105	24	8
	17.9 (15.7- 20.1)	12.0 (10.1 -13.9)	8.8 (7.2 - 10.4)	2.0 (1.2 - 2.8)	0.7 (0.2 - 1.2)
Women (N=1336)	275	191	117	39	16
	20.6 (18.4 -22.8)	14.3 (12.4 -16.2)	7.6 (6.2 - 9.0)	2.9 (2.0 - 3.8)	1.2 (0.6 - 1.8)
Total (N=2530)	489	335	222	63	24
	19.3 (17.3-20.8)	13.2 (11.9 -14.5)	8.8 (7.7 - 9.9)	2.5 (1.9 - 3.1)	0.9 (0.5 - 1.3)
Those with depressive symptoms *					
Men (N=249)	126	93	76	20	4
	50.6 (44.4- 56.8)	37.3 (31.3 -43.3)	30.5 (22.3 -38.7)	8.0 (4.6 - 11.4)	1.6 (0.0 - 3.2)
Women (N=401)	189	134	92	33	13
	47.1 (42.2 -52.0)	33.4 (28.8- 38.0)	22.9 (18.8- 27.0)	8.2 (5.5 - 10.9)	3.2 (1.5 - 4.9)
Total (N=650)	315	227	167	53	17
	48.5 (44.7 -52.3)	34.9 (31.2 -38.6)	25.7 (22.3- 29.1)	8.1 (6.0 - 10.2)	2.6 (1.4 - 3.8)

* Reporting feeling sad or having lost interest for more than half each day over a minimum two week period during that 12 months

of health care utilisation reported by the subgroups of 484 and 315 of the PATH20 and PATH40 participants respectively (Tables 36 and 37). Compared with the younger survey participants, respondents in the PATH40 cohort were more likely to have sought help for their problems; 55.9% compared with 41.3%. In both cohorts, women were more likely than men to report that they had sought help for their depressive symptoms, although as seen in Table 38, this difference was statistically significant only for the PATH20 cohort.

Table 36: PATH20 project: percentage of respondents with suicidal ideation who obtained help for their depressive symptoms

Number asked about seeking help for depressive symptoms:	Percentage (and 95% confidence interval) to report obtaining help whose level of suicidal ideation was:				
	Felt life hardly worth living	Felt better off dead	Thought about taking own life	Planned to take own life	Attempted to take own life
Men (N=220)	29.5 (23.5- 35.5)	26.3 (19.3- 33.3)	28.7 (20.4 -37.0)	48.6 (32.5 -64.7)	58.3 (30.4 -86.2)
Women (N=264)	51.1 (45.1 -57.1)	55.0 (48.1 -61.9)	57.5 (49.5 -65.5)	73.1 (61.0 -85.2)	88.9 (74.4 -100.0)
Total (N=484)	41.3 (36.9 -45.7)	42.6 (37.4 -47.8)	44.8 (38.9 -50.7)	62.9 (52.9 -72.9)	76.7 (61.5 -91.8)

Table 37: PATH40 project: percentage of respondents with suicidal ideation who obtained help for their depressive symptoms

Number asked about seeking help for depressive symptoms:	Percentage (and 95% confidence interval) to report obtaining help whose level of suicidal ideation was:				
	Felt life hardly worth living	Felt better off dead	Thought about taking own life	Planned to take own life	Attempted to take own life
Men (N=126)	50.8 (42.1 -59.5)	53.8 (43.7 -63.9)	50.0 (38.8 -61.2)	80.0 (62.5 -97.5)	75.0 (32.6 -100.0)
Women (N=189)	59.3 (52.3 -66.3)	66.4 (58.4 -74.4)	73.9 (64.9 -82.9)	78.8 (64.9 -92.7)	69.2 (44.1 -94.3)
Total (N=315)	55.7 (50.2 -61.2)	61.0 (54.7 -67.3)	63.1 (55.8 -70.4)	79.2 (68.3 -90.1)	70.6 (48.9 -92.3)

Table 38 also indicates other predictor variables that were significantly different for those who sought or did not seek help for their problems. In both cohorts, respondents who obtained help for their problems were significantly more likely to have: previously obtained such care, more severe suicidal ideation, higher levels of anxiety or neuroticism, and worse mental health as rated by the SF-12.

Those who received care were also likely to have had their symptoms treated in the previous year. PATH40 respondents who obtained help also had experienced significantly greater numbers of adverse life events in the past 12 months, had worse physical health and more chronic diseases. While PATH40 participants with higher levels of depressive symptoms were more likely to have sought help, this was not the case for the younger cohort.

Simple and multiple logistic regressions were then undertaken to identify predisposing, enabling and need-related variables that were associated with obtaining help when feeling depressed. The results of these analyses are given in Table 39. From the simple logistic regression of the PATH20 data, it was found that those who sought help were more likely to be female, have previously obtained mental health help, but not to have previously had untreated symptoms. Obtaining help was also associated with four measures of need: higher levels of suicidal ideation, having CIDI-SF diagnosed anxiety disorder, a higher EPQ-R Neuroticism score and poorer mental health as measured by the SF-12. The predisposing factor, being female, and the enabling factor, having previously used mental health care, continued to be associated with obtaining help for depressive problems when other measures of need were included simultaneously in the analysis. In this multiple logistic regression, measures of need significantly associated with having obtained care were: higher levels of suicidal ideation, worse mental health on the SF-12 scale, and reporting more frequent use of marijuana.

Table 38: PATH20 and PATH40 cohorts: mean or median scores of predisposing, enabling and need factors for those with suicidal ideation and depressive symptoms who obtained, or did not obtain, help for their problems

Variable	Description	PATH 20 Measure for those who: obtained help Yes N=200	No N=284	SD#	PATH 40 Measure for those who: obtained help Yes N=176	No N=139	SD#
Predisposing:							
Sex (female)	% female	67.5*	45.4*	0.49	63.6	55.4	0.49
Higher education	% undertaking or completed higher education	79.5	78.9	0.41	46.0	47.1	0.50
Married/de facto	% married or in de facto relationship	22.0	18.3	0.40	65.3	69.3	0.47
Separated/Divorced	% separated or divorced	2.5	1.4	0.13	21.6	19.3	0.40
Adverse life events	Mean number of adverse life events in past 12 months	2.77	2.91	2.11	2.8*	2.0*	1.69
Enabling:							
Unemployed	% unemployed	16.5	16.6	0.37	18.8	15.7	0.38
Financial problems	% with financial problems	46.5	45.1	0.50	28.4	27.9	0.45
Student health services	% studying full-time	29.0	30.6	0.46	2.8	1.4	0.15
Previous symptoms, no help	% with earlier depressive symptoms, did not seek help	19.5*	52.8*	0.46	9.1*	43.6*	0.39
Previous symptoms, sought help	% with earlier depressive symptoms, obtained help	68.5*	20.1*	0.43	82.4*	35.0*	0.43
Need:							
Mental health needs							
CIDI-SF depressive disorder	Mean probability of CIDI-SF diagnosis of depression (score from 0-7)	4.5	4.5	2.07	5.5*	4.7*	1.30
Suicidal ideation	Mean suicidal ideation score (score from 0-5)	2.7*	2.4*	1.18	2.7*	2.2*	1.14
CIDI-SF anxiety disorder	% with CIDI-SF diagnosis of generalised anxiety disorder	41.0*	19.0*	0.44	48.3*	23.7*	0.50
Alcohol use - abstain	% abstaining from alcohol in past 12 months	6.0	9.15	0.27	30.7	24.3	0.45
Alcohol use - high	% drinking at hazardous or harmful level in past 12 months	9.5	9.5	0.29	11.9	7.1	0.30
Cigarette use	% smoking regularly	30.0	29.6	0.46	25.6	28.6	0.44
Marijuana use	% using marijuana at least once every 4 months	32.5	26.4	0.45	8.0	12.9	0.30
EPQ-R Neuroticism Score	Mean score on the EPQ-R Neuroticism scale.	8.3*	7.4*	2.84	8.1*	7.3*	2.99
MCS-12	Mean score on SF-12 mental health scale	34.2*	38.8*	10.92	33.1*	37.9*	10.78
Physical health needs							
PCS12	Mean score on SF-12 physical health scale	51.4	52.7	10.92	48.13*	51.0*	11.30
Chronic diseases	Count of chronic diseases	0.4	0.3	0.58	0.6*	0.4*	0.50

* $p<0.05$

Pooled standard deviation

In the simple logistic regression analysis of the PATH40 cohort, those who obtained help were more likely to need such help as measured by five of the mental health need-related variables: having more depressive symptoms, more severe suicidality, higher likelihood of receiving a CIDI-SF diagnosis of generalised anxiety disorder, having a higher neuroticism score and worse mental health as

Table 39: PATH20 and PATH40 cohorts: respondents with suicidal ideation and depressive symptoms; odds ratios for associations between measures of predisposing, enabling and need variables and seeking help for their problems

Variable	Odds ratios and 95% confidence intervals for: PATH 20 Simple logistic regression	PATH 20 Multiple logistic regression	PATH 40 Simple logistic regression	PATH 40 Multiple logistic regression
Predisposing:				
Sex (female)	2.50 (1.71 - 3.64)*	1.91 (1.19 - 3.07)*	1.41 (0.89 - 2.22)	1.40 (0.62 - 3.14)
Higher education	1.04 (0.66 - 1.62)	0.98 (0.53 - 1.81)	0.96 (0.61 - 1.49)	0.68 (0.31 - 1.53)
Married/de facto	1.26 (0.80 - 1.97)	1.23 (0.70 - 2.14)	0.84 (0.52 - 1.34)	#
Separated/divorced	1.79 (0.48 - 6.78)	0.71 (0.14 - 3.57)	1.15 (0.66 - 2.00)	#
Adverse life events	0.97 (0.89 - 1.06)	0.95 (0.84 - 1.07)	1.22 (1.05 - 1.40)*	1.15 (0.94 - 1.42)
Enabling:				
Unemployed	1.00 (0.61 - 1.62)	1.10 (0.59 - 2.05)	1.24 (0.68 - 2.24)	1.51 (0.47 - 4.86)
Financial problems	1.06 (0.74 - 1.52)	0.74 (0.46 - 1.20)	1.03 (0.63 - 1.68)	0.93 (0.39 - 2.19)
Student health services	0.92 (0.62 - 1.37)	0.91 (0.54 - 1.53)	2.02 (0.39 - 10.56)	9.35 (0.30-305.0)
Previous symptoms, no help	0.21 (0.14 - 0.33)*	0.69 (0.37 - 1.30)	0.13 (0.07 - 0.24)*	0.14 (0.04 - 0.56)*
Previous symptoms, sought help	8.66 (5.71 - 13.13)*	5.81 (3.14 - 10.74)*	8.69 (6.16 - 14.62)*	3.49 (1.24 - 9.88)*
Need:				
Mental health needs				
CIDI-SF depressive disorder	1.00 (0.92 - 1.09)	0.89 (0.79 - 1.00)	1.58 (1.32 - 1.90)*	1.50 (1.11 - 2.02)*
Suicidal ideation	1.30 (1.12 - 1.52)*	1.23 (1.01 - 1.50)*	1.48 (1.21 - 1.81)*	1.19 (0.84 - 1.70)
CIDI-SF anxiety disorder	2.96 (1.97 - 4.46)*	1.53 (0.89 - 2.65)	3.00 (1.84 - 4.90)*	1.97 (0.89 - 4.39)
Alcohol use - abstain	0.63 (0.31 - 1.29)	0.74 (0.30 - 1.83)	1.38 (0.84 - 2.28)	1.02 (0.39 - 2.70)
Alcohol use - high	1.00 (0.54 - 1.85)	1.02 (0.47 - 2.21)	1.76 (0.80 - 3.87)	2.85 (0.72- 11.29)
Cigarette use	1.02 (0.69 - 1.52)	0.90 (0.47 - 2.21)	0.86 (0.52 - 1.41)	0.37 (0.15 - 0.95)
Marijuana use	1.34 (0.90 - 1.99)	1.76 (1.03 - 3.00)*	0.59 (0.28 - 1.22)	0.88 (0.18 - 4.28)
EPQ-R Neuroticism Score	1.11 (1.04 - 1.18)*	0.98 (0.89 - 1.07)	1.10 (1.02 - 1.18)*	0.98 (0.86 - 1.11)
MCS-12	0.96 (0.95 - 0.98)*	0.96 (0.94 - 0.99)*	0.96 (0.94 - 0.98)*	0.97 (0.93 - 1.00)
Physical health needs				
PCS-12	0.98 (0.96 - 1.00)	0.97 (0.94 - 1.00)*	0.98 (0.96 - 1.00)*	1.00 (0.97 - 1.04)
Chronic diseases	1.30 (0.96 - 1.78)	1.05 (0.70 - 1.57)	1.83 (1.17 - 2.86)*	0.96 (0.44 - 2.10)

* $p<0.05$
# omitted from analysis due to collinearity

measured by the SF-12. Three non-need related variable were associated with health care utilisation. Those with experience of adverse life events in the past six months, and those who had previously obtained help for depressive symptoms were significantly more likely to have sought such help. Those who reported that they had previously had depressive symptoms and had not received treatment then, were significantly less likely to have obtained treatment in the last 12 months when they had re-experienced the symptoms. After controlling for measures of need in the multiple logistic regression, those who obtained help continued to be more likely to have obtained such help previously, and to have higher levels of depressive symptoms, as measured by the probability of their being given a CIDI-SF diagnosis of depression.

Various studies have noted that men and women give priority to different concerns when deciding to seek help for their mental health problems (for example, Leaf and Bruce, 1987). This issue was then explored in the current analyses by undertaking further logistic regression analyses on both data sets to explore the impact of interactions between being female and other predictor variables. The initial testing of both data sets, however, indicated that interaction variables did not contribute significantly to the explanatory power of the model. These terms were thus discarded from the analyses.

Discussion

The analyses reported here examined data collected on two age groups of the population, those aged 20 to 24 and those aged 40 to 44, through the PATH Through Life Project being conducted in Canberra and Queanbeyan. The question explored in this chapter was: *considering those in each age group of respondents who reported a mental health problem (suicidal ideation and depressive symptoms), are there non-need related factors that are associated with such individuals obtaining help for*

that problem? The Andersen behavioural model was again used as the basis for categorising non-need related factors that might affect help-seeking as predisposing or enabling the individual to obtain such help.

Participants in the PATH20 cohort were significantly more likely to report some level of suicidal ideation, compared with those who participated in the PATH40 study. Those in the PATH40 survey who reported suicidal ideation and depressive symptoms, however, were more likely to have sought help for their problems. This finding further supports the efforts made by governments in Australia and elsewhere to reduce the levels of suicidality and completed suicides in adolescents and young adults (Commonwealth Department of Health and Aged Care, 1997; Pfaff et al, 2001).

Need factors associated with help-seeking by those with suicidal ideation

PATH20 cohort

In the PATH20 survey, those with suicidal ideation and depressive symptoms who had obtained help for their problems were also likely to have: more severe suicidal ideation, a CIDI-SF diagnosis of generalised anxiety disorder, higher EPQ-R Neuroticism scores, and mental health problems as measured by the SF-12. When account was taken of other variables that could influence such help-seeking, those who sought help were found to have: higher levels of suicidal ideation, a lower SF-12 mental health score, and higher likelihood of using marijuana regularly.

PATH40 cohort

From the subgroup of the PATH40 cohort who had reported suicidal ideation and depressive symptoms, those who obtained help were more likely to have greater mental health problems as measured by five need-related variables: having a CIDI-SF depressive or anxiety disorder, level of suicidality, higher EPQ-R Neuroticism score and a poorer SF-12 mental health score. Service users were also more likely to

have poorer physical health and more chronic physical health problems. With all factors considered simultaneously, those who obtained help were distinguished only by their greater likelihood of having a CIDI-SF diagnosed depressive disorder.

Predisposing variables associated with help-seeking by those with suicidal ideation

In Chapter Three, it was found that in a sample of the Australian population, after controlling for mental health needs, women and those who were separated were more likely to have obtained help for their mental health problems (Table 7). There it was found that, after controlling for mental health needs, women selected randomly from the community were more likely than men so selected to have obtained help for their mental health problems from the formal health care system. This result matched the conclusions of numerous earlier analyses and also supported Andersen's original framework (Andersen and Newman, 1973), which proposed that women are more predisposed than men to seek help from the formal health system. This gender effect was repeated for the PATH20 cohort, where women had two and a half times the odds of reporting that they sought help for their problems. Being female also continued to be associated with help-seeking behaviour after the impact of other factors was taken into account.

In the PATH40 analysis, however, while this trend in help-seeking behaviours continued, women were not significantly more likely than men to have obtained help. This finding suggests that the current arrangements for providing mental health care in Australia, at least for those with depression and suicidal ideation, may be meeting the needs of men in some, although not all, age groups. When factors were considered in isolation, those in this middle-aged cohort who reported having experienced more adverse life events were more likely to have reported obtaining formal help. As hypothesised by Zola (1973), it may be that such

difficulties exacerbate depressive symptoms and become the trigger for obtaining formal help. When all factors were taken into account, however, no predisposing factors differentiated PATH40 respondents who obtained help from their counterparts who chose not to.

Enabling variables associated with help-seeking by those with suicidal ideation

It was found in these analyses that those who had previously obtained help for depressive symptoms were consistently and significantly more likely to have sought help for depressive symptoms in the past 12 months. After controlling for measures of need, those in the PATH20 cohort who had previously used services were found to be almost six times more likely to have sought help during the past year, compared with respondents who reported no previous use of mental health services. Similarly, those in the PATH40 cohort with previous experience of mental health help were over three times more likely to have reported obtaining help for their more recent problems. The corresponding finding that those who had previously experienced symptoms without seeking help then were less likely to seek help for the more recent problems also held for both age groups with this negative association reaching significance for the older cohort.

A number of researchers have reported the first of these findings previously (for example, Bayer and Peay, 1997; Bucholz and Robins, 1987; Deane et al, 2001; Dew et al, 1988). It may be that, for individuals with mental health problems, a major factor behind the reluctance to seek help for those problems may be a fear of the unknown and that concerns about such help-seeking may reduce after first hand experience. The second finding concerning the reluctance of those without such experience to change their patterns of service utilisation implies, not unexpectedly, that individuals' help-seeking behaviours may become more entrenched by the time they reach middle age. From the viewpoint of those developing mental health policy,

it is important to know whether non-users ever change their perspectives about help-seeking for mental health problems, and if so, under what circumstances. Or do young adults who choose not to obtain help become more determined to deal with their mental health problems outside the formal health care system as they grow older? Such information cannot be drawn from these analyses but might be acquired in the future as this longitudinal PATH Project continues.

Conclusions

The findings drawn in this chapter provide the opportunity to refine conclusions reached in Chapters Three and Six. This study has focused, not on the general population, but on two age-specific cohorts of PATH participants with suicidal ideation and depressive symptoms and has examined factors that affect such individuals' help-seeking specifically for mental health reasons. Two findings from this study are important. Firstly, the impact of predisposing factors in determining which Australians receive needed mental health help may not be equally applicable to all age groups. Secondly, those who have previously used mental health care are more likely to seek help again. Governments that aim to provide information about the purposes and value of mental health care may need to target that information to particular subgroups in the population base, not only on sociodemographic variables, but also on their experience with such care.

This completes the analytical section of the thesis. The final chapter returns to the health policy setting described in Chapter One and considers how the findings from these analyses could inform government policies and initiatives to improve Australia's equity of access

Chapter Eight:
Conclusions: Australians' equity of access to mental health care on the basis of need

Chapter Eight Abstract

This concluding chapter summarises the findings of the analyses undertaken for this thesis. Overall, these findings indicate that Australians who receive mental health services are characterised by their having a need for such care. In some circumstances, however, those obtaining specific types of care were also likely to be distinguished by personal or health system-related factors, for example, being female, having higher education, not living in a rural or remote location or having used such services previously. These findings provide important confirmation that, in general, factors associated with Australians' obtaining mental health care correspond reasonably well to factors associated with individuals' obtaining similar types of care in other countries.

The chapter then explores some possible implications of these findings for directing future mental health policy and also considers future research that might be undertaken in order to confirm findings from this thesis or to provide clearer direction for that policy. The discussion then notes a number of limitations of this thesis that have reduced the information available through these analyses and subsequent generalisability of these findings. A final conclusion is then drawn on the extent to which Australians have access to mental health care on the basis of need.

Introduction

After providing an overview of findings and setting them against earlier related research, this chapter returns to the health policy perspective with which this

thesis began and revisits the question: *to what extent can Australians experiencing common mental health problems be said to have equitable access to health services on the basis of need?* It was argued in Chapter One that individuals' access to mental health help will be influenced not only by their need for such help, but also by a range of personal and health-system factors that can affect their choosing to seek such help and their ability to obtain that care. The analytical framework employed in this thesis then drew on Andersen's behavioural model of health care access, considering three categories of predictor variables that might affect access to mental health care: predisposing variables that aligned with personal factors, enabling variables measuring the impact of health-system factors, and measures of need.

The findings

This thesis examined Australian's access to mental health care from a number of perspectives. The following summary of the findings provides a broad picture of mental health care in Australia, addressing the questions: *(i) to what extent do measures of need determine who obtains mental health care in Australia?* and *(ii) to what extent do non-need related factors have an important impact in determining whether Australians have access to the mental health care that they need?*

The data analyses:

(1) the National Survey of Mental Health and Well-being

The first three analytical chapters examined data from the National Survey of Mental Health and Well-being which surveyed a random sample of 10,641 Australians aged 18 and over.

- Chapter Three explored which predisposing, enabling and need factors identified those who sought help for their common mental health problems from the formal health care system and from specific categories of health care providers.
- Chapter Four explored the types of assistance provided to those who obtained mental health help, and examined the factors that identified those who received particular types of mental health assistance. It also examined the extent to which types of help received were attributable to individuals having obtained care from particular categories and combinations of health practitioners.
- Chapter Five then examined the extent to which predisposing, enabling and need factors identified consumers of mental health care who reported that their mental health needs had not been fully met. It also explored reasons given by consumers for not persisting in obtaining needed mental health care.

(2) the PATH Through Life Project

The focus of analysis moved to this project which included surveys of two cohorts of adults living in the ACT and Queanbeyan, NSW. The first cohort comprised 2,404 young adults aged from 20 and 24 and the second, 2,530 aged from 40 to 44.

- Chapter Six explored need and non-need factors associated with the younger adults having obtained care from a general practitioner in the six months prior to their participation in the survey. Data for this analysis were obtained from administrative records of health care utilisation and respondents' replies to survey questions.
- The last analysis reported in Chapter Seven examined self-reported data from both PATH cohorts to explore the extent to which those with suicidal ideation reported that they had sought help for their depressive symptoms in the 12 months preceding their survey.

The results

Viewed as a whole, and in the context of various methodological limitations of these analyses, the research undertaken for this thesis delivers a number of findings about Australians' access to mental health care on the basis of need. The following is a summary of the key points of these results.

Need factors

- Australians who obtained help for common mental health problems were primarily identified by their needing such help. Those with depressive symptoms or diagnosed as having an affective disorder were most likely to obtain such help. However, of those with mental health needs, individuals who obtained help for those problems were identified by various factors not relating to those needs.

Predisposing factors

- Compared with men, women were predisposed to seek more help for mental health problems and for health problems generally. This gender difference in help-seeking held for services provided by general practitioners and other health practitioners, but not by specialist mental health practitioners. Also it did not apply across all age groups. While young adult women obtained more health care than their male counterparts, this finding did not hold for a cohort of adults aged 40 to 44 years.
- At the national level and considering all age groups, younger Australians and those with higher education were more likely to obtain specialist mental health help. Those in the younger age group also received more types of mental health assistance than did their older counterparts. Against these findings, however, a cohort of middle aged adults was found to be more predisposed to seek help when feeling depressed and experiencing suicidal ideation, compared with a cohort of young adults. Further, in this second study, those with higher levels of

education were not more predisposed to seek help relative to those with less education.

- This thesis has also found inconsistent results concerning the impact of separation or divorce on mental health care utilisation. Taken at the national level and with all age groups combined, these individuals were predisposed to obtain more mental health help. Again, this finding did not hold for two cohorts of young and middle-aged adults in a limited geographical region.

Enabling factors

- A large proportion of mental health care was provided by general practitioners whose services were available to most Australians. Those living outside metropolitan areas, however, obtained fewer specialist mental health services.
- Those who had previously received mental health help were much more likely to seek such assistance again when they needed it. This finding applied to both men and women across two age groups. Correspondingly, those in a middle-aged cohort who had previously had untreated mental health problems, avoided seeking such help when those symptoms reoccurred.
- Notably, most enabling factors concerning the availability, affordability and cultural appropriateness of health care were found to have little impact on whether Australians obtained help for their mental health problems.

Health practitioner issues

- Australians whose mental health help was provided by psychiatrists were likely to receive a range of different types of mental health assistance. The larger sub-group of consumers who obtained their care only from a general practitioner was, for the most part, prescribed medication. In addition, individuals receiving only general practitioner care were least likely to have obtained psychological therapy, practical or self-care help and relatively unlikely to have obtained

mental health information. Overall, those who obtained mental health help wanted more psychological therapy and mental health information, while medication needs were least often reported as unmet.

How do these findings compare with previous research?

The impact of need factors on mental health service utilisation

This thesis provides important confirmation that measures of need, not predisposing or enabling factors, are the strongest determinants of whether Australians obtain health for their mental health problems. Until now, it has been difficult to draw this conclusion with confidence, given the limited availability of data on use of mental health services by the Australian population. This finding matches a number of earlier findings from the United States that factors indicating need have the strongest relationship with obtaining mental health care in the general population (Leaf et al, 1988), for homeless adults (Padgett et al, 1990) and for homeless veterans (Wenzel et al, 1995). Similar findings were also reported in a national survey of households in the United Kingdom (Bebbington et al, 2000b) and for a sample of elderly Australians (Korten et al, 1998).

In the current study of individuals with common mental health problems, those with affective disorders were most likely to have obtained mental health help. Similar findings have also been reported previously, for example, by Howard and colleagues (1996), when they examined patterns of mental health utilisation in two major epidemiologic studies in the United States.

The impact of predisposing factors on mental health service utilisation

In general, findings align with previous overseas research on factors that may predispose individuals to seek formal mental health help. Women's predisposition to use more formal health care is a finding that has consistently been reported overseas (Benyamini et al, 2000; Kessler et al, 1981; Leaf and Bruce, 1987; Lefebvre et al,

1998; Schroll et al, 1991) and in Australia (Bayer and Peay, 1997; Korten et al, 1998). Other researchers have also noted that this gender difference in health care utilisation applies chiefly to primary health care services and not those provided in the specialist medical sector (Leaf et al, 1988). Research has not been identified that might support or challenge the finding that there was no significant difference between the help-seeking activities of middle-aged men and women.

The present study's findings concerning the impact of age group, education and marital status on individuals' use of services were variable. Various studies undertaken in the United Kingdom, the United States and Canada have reported findings that concur with those drawn from the analyses of the National Survey; namely that those who are younger, more highly educated, separated or divorced are more likely to obtain mental health help (Bebbington et al, 2000a; Gallo et al, 1995; Horwitz and Uttaro, 1998; Hourani and Khlat, 1986; Leaf et al, 1988, MacKenzie et al, 1999). The study by MacKenzie and colleagues (1999) also found that general practitioners in Canada were less prepared to offer a range of treatments to older patients with mental disorders. Again, no research was located that could confirm or contest the PATH findings - that those in an older cohort were more likely to use services compared with young adults with similar mental health problems and that having a higher education did not predispose individuals of both age groups to seek help.

The impact of enabling factors on mental health service utilisation

Concerns have previously been raised about the amount of specialist medical care available to those living in rural and remote Australia (Commonwealth Department of Health and Aged Care, 1999c; Jorm et al, 1993). More commonly, however, such concerns extend to the availability of all medical care including services provided by general practitioners (Humphreys et al, 1997; Judd and

Humphreys, 2001; Malcolm, 2000; Veitch et al, 1999; Wilkinson and Symon, 2000). By comparison, this study of Australians' access to mental health care found that, after mental health needs were taken into account, levels of mental health services provided by general practitioners did not vary significantly across metropolitan, rural or remote locations. This finding suggests that most Australians have reasonable geographic access to at least primary mental health care. That Australians in rural and remote areas should obtain fewer specialist mental health services was unsurprising and endorses various initiatives that have been, and are being, tried to address this shortfall (National Rural Health Policy Forum, 1999; Owen et al, 1999; Veitch et al, 1999).

The second finding concerning enabling factors was that having previously obtained mental health help enabled individuals to seek further such care when needed. While similar results have been reported previously in a range of settings (Albizu-Garcia et al, 2001; Bayer and Peay, 1997; Carlton and Deane, 2000; Stefl and Prosperi, 1984) the persistence of such a finding in this study for both men and women across two separate age groups sets it as potentially useful information from the health policy perspective. What changes are experienced by individuals after obtaining formal mental health care that ease their future entry or reduce perceived barriers to that care? This issue is considered again in the next section.

The impact of health practitioner factors on mental health service utilisation

The finding that the general practitioner's primary role in delivering mental health care is as provider of prescription medication concurs with previous analyses of the services provided by general practitioners for health problems in general (Britt et al, 2000) and for mental health problems in particular (McManus et al, 2000). While a survey of patient care provided by about 400 general practitioners across Australia found non-pharmacological treatments, usually counselling, to be the more

common treatment, this was a cohort of practitioners who self-selected into the Somatic and Psychological Health Report (SPHERE) (Harris and Penrose-Wall, 2001) and is likely to provide an inaccurate picture of general practitioners' typical mental health care.

Consumers' reports of unmet need for psychological therapy for their mental health problems suggest that they consider this form of treatment preferable to medication which was more frequently provided. Such a finding would match those reported overseas (Angermeyer and Matschinger, 1996; Dwight-Johnson et al, 2000; Paykel et al, 1997). Views on the value of psychological therapy over medication may be attributable in part to the consumer's perception that psychiatric medications are dangerous and addictive, a standpoint that appears quite resistant to modification (Angermeyer and Matschinger, 1996; Harris, 2001; Paykel et al, 1997). Unmet need for information about mental health problems and treatments has also been reported by those obtaining mental health care in the United Kingdom (Harris, 2001).

While many of the present study's results align with findings from previous research undertaken overseas, they have particular value in providing an informative picture of the current status of Australians' access to mental health care on the basis of need. The findings of this study also provide direction for changes in mental health policy that might need to be considered if Australians' access to mental health care is to be based more on measures of need and less on personal and health-system factors. Some potential directions are discussed in the next section.

Health policy implications of the findings from these analyses

Women's predisposition to obtain mental health care

This gender difference is most pronounced for services provided by general practitioners, who provide the largest proportion of the care Australians receive for their mental health problems. This finding prompts two health policy questions:

Does this difference matter? Should governments that aim to deliver an equitable health care system take responsibility for addressing personal factors that impact on that system? If, overall, men obtained fewer mental health services than women but had comparable or better levels of mental health, the first question might be answered in the negative. However, examination of one measure of (inadequate) mental health care, suicide rates, indicates that this is not the case. Australian men complete more suicides than women, a finding that applies across all age groups (Cantor et al, 1999; Royal Australian College of General Practitioners, 2001). Governments have already acknowledged that Australian men have a range of mental health needs that are often inadequately addressed (National Health and Medical Research Council, 1995).

Should governments be concerned if this unmet need is the consequence of men's personal choice not to use care? It might be argued that efforts to change the impact of such factors would be inappropriate government interference. Such choices, however, are the sum of individuals' health awareness, illness behaviour and their help-seeking activities. The last of these, in particular, is an interactive process between two parties: a health care provider working on behalf of a wider health care system and an individual seeking help. What is not known is the extent to which men are deterred from seeking needed mental health help by particular aspects of the general practice system that might be open to modification? *If men prefer not to use this health care setting, are there other health care structures that would better meet their needs?* One mechanism for developing such structures might be to consider the role of women's health care settings developed separately from mainstream medical practices to provide health information and services in a sensitive, non-threatening environment (Broom, 1998). Could this same principle be applied to provide mental health services in a setting and through a medium that is

selected by and comfortable for men, in particular for younger men? Tselikis (2000), for example, has noted that the Internet is emerging as the medium of choice for delivering health information to men. Such solutions have already been suggested informally, for example by Williams (2000) observing widespread male reluctance to seek medical help in the formal clinical setting. Options developed specifically for men have also been trialed, for example, through men's health nights during which participants discussed issues and obtained advice about heart disease, cancer and stress management (Verrinder and Denner, 2000). It may now be time to explore such options more carefully.

Other predisposing factors

Inconsistent findings are reported in this thesis concerning the impact of age, education level and marital status on individuals' predisposition to obtain formal mental health care. Further research is needed to clarify the extent and direction of impact of these predisposing variables in discouraging or encouraging Australians to obtain mental health help.

Mental health care for Australians in rural and remote areas

The enabling factors first identified referred to those health-system factors that influence the availability, affordability and cultural appropriateness of health services, factors that continue to receive considerable attention in most government mental health strategies (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, 1999). That this study found lower levels of availability of specialist mental health care in rural and remote areas is not surprising. Various strategies by which such inequalities might be reduced continue to receive ongoing attention and resources (for example, Harmon et al, 2000; Judd et al, 2000; Owen et al, 1999). Such strategies have generally focused on developing better integration between specialist mental health staff based in provincial centres

or metropolitan areas, and general practitioners practising in rural and remote communities (Harmon et al, 2000; Owen et al, 1999). The provision of mental health care through video conferencing and telepsychiatry has also been explored in rural areas (Kavanagh and Hawker, 2001).

The stepping stone of obtaining mental health help

This study also found that the experience of having previously obtained needed mental health care enabled individuals to obtain such care again. The effect of the treatment experience on specific views held by individuals is not known but could, for example, have improved their awareness of the availability and potential benefits of such care. From a health policy viewpoint, governments aiming to provide equitable mental health care need better information on how individuals who first receive mental health care experience changes in their understanding of mental health problems and treatments, and their attitudes towards obtaining such treatment. In particular, this study's finding that previous experience of care is a major predictor of whether young men and women obtain further help may provide valuable pointers to the concerns held by this age group and how those concerns might have been managed by others with similar needs.

How will Australians obtain enough psychological therapy?

This study found that about one quarter of those who had obtained some mental health care reported that they felt their needs for psychological therapy had not been fully met. This finding may reflect consumers' preference for this form of assistance over medication, which they more commonly obtained. It also raises the question: given that psychological therapy is recognised as an important component of mental health care (Mitchell, 1998), is this form of mental health treatment to be made available to, and affordable for, Australians who have common mental health problems? If not, then such limitations of Australia's mental health care system

might need to be given greater emphasis in programs that aim to improve general mental health awareness and promote preventive mental health activities (Commonwealth Department of Health and Aged Care, 1998). If psychological therapy is to be readily available to, and affordable for, Australians, then in which health care settings might individuals with mental health needs obtain psychological therapy, provided as a Medicare-funded service? The present findings suggest that this question has still to be addressed. General practitioners, the first port of call to the formal health care system, provide the largest proportion of mental health services overall but the smallest percentage of psychological therapy. Moreover, since almost half of those who obtain any mental health care receive only general practitioner care, this substantial group can expect to receive little psychological therapy. Specialist mental health practitioners including psychiatrists and psychologists can provide such care but their limited availability and the outlays required from consumers for services not covered by Medicare would exacerbate inequalities in Australians' access to needed mental health care. While it has been argued that some forms of psychological therapy have limited or questionable efficacy (Schulberg et al, 1999), psychological therapy is now recognised as an effective treatment option for particular subgroups of individuals (Gloaguen et al, 1998). Further, medication may also be ineffective if it is prescribed at inappropriately low levels or taken only for a few days (Mitchell, 1998). These concerns merely emphasise the importance of practitioners adhering to best practice guidelines for all forms of care (Kendrick, 2000).

Training general practitioners to deliver effective treatment for common mental health problems, by medication, psychological therapy or a combination of these treatments is still required. The strategies by which such training might be provided effectively are not obvious and would need to address a number of

obstacles (Stone and Blashki, 2000). Various researchers have reported lack of long-term change in general practitioners' mental health awareness, treatment and management skills following clinical audits (Naismith et al, 2001) and practitioner education programs (Lin et al, 1997, 2001; Tiemens et al, 1999).

The National Survey was conducted in Australia in 1997 so the findings from analyses of these data do not necessarily reflect Australia's current arrangements for delivering mental health care. The Australian government has recently made changes to Medicare arrangements to provide funding to allow appropriately trained general practitioners to provide mental health counselling to patients (Commonwealth Department of Health and Aged Care, 2001). General practitioners will also have access to additional allied mental health support (Commonwealth Department of Health and Aged Care, 2001). Whether these changes will increase the amount of non-pharmacological treatment provided by general practitioners to those with mental health problems remains to be determined.

The future?

A final issue to be raised under this heading is the burgeoning of the Internet as a mechanism for providing mental health information and therapy online (Christensen and Griffiths, 2000; Yellowlees, 2000). While practitioners may voice a range of concerns about the quality and appropriateness of such services, those in the community will continue to see them as empowering tools for sharing of personal experiences, self-diagnosis and self-treatment (Christensen and Griffiths, 2000). Mental health care delivered through this medium may well overcome at least some of the problems of delivering psychological therapy to individuals who are unable or unwilling to obtain such help in the setting of the practitioner's clinic.

Areas of future research indicated by this study

To inform mental health policy

As already suggested in the above section, these findings highlight a number of topics concerning Australians' access to mental health care that warrant further exploration. The aims of such research and revision of mental health policy would be to:

- identify the settings and structures of health care environments that would encourage men, particularly young men, to seek needed care for their mental health problems;
- examine whether, and to what extent, individuals who first receive mental health care experience changes in their knowledge of mental health, their awareness of mental health services and in their attitudes towards receiving such care. If such changes are identifiable, they could inform future initiatives to improve community awareness and understanding of common mental health problems; and
- ensure that government policies that endorse the value of psychological therapy as treatment for various categories and severity levels of the common mental disorders are translated into such services being available to and affordable for Australians who have such problems.

To improve understanding of factors affecting mental health care utilisation

The research undertaken in this study also identified a number of areas that need clarification or warrant further exploration. While findings from further research might inform mental health policy at a later stage, the primary purpose of additional research would be to improve knowledge in the following areas.

Mental health care offered older Australians

Older Australians with mental health needs were less likely to be provided information about their condition and treatment options, and more likely to receive medication. While this age group did not report significantly more unmet need for information, or other types of assistance, this difference in mental health care delivered to Australians of different ages should be further explored. *Is this difference the expressed preference of the older recipients or the most convenient choice selected by their health care providers?*

Differences in help-seeking by younger and middle-aged Australians

In this study, while younger men were found to have used significantly fewer services than their female counterparts, for those aged in their early forties this difference had decreased and was no longer significant. A similar pattern of decline in suicide rates reported for Australian men as they grow older has also been noted (Cantor et al, 1999). Little is known of how and why these vulnerabilities reduce with further life experiences and whether such reductions continue over the life span. Are these different health behaviours the result of individuals' changed health awareness and attitudes to help-seeking? If so, what are the main factors that prompt such changes? Alternatively, do these different health behaviours simply indicate that the cohort of individuals that does make it through to middle age began with better levels of mental health? Do such changes also apply to particular subgroups of women? Longitudinal studies such as the PATH Through Life Project have the potential to provide valuable information about the patterns of mental health experiences and help-seeking behaviours of individuals as they move forward through this life stage.

Limitations of this study

There is a range of limitations that restrict the extent to which these findings offer accurate, generalisable information on Australians' levels of access to needed mental health care. The following section summarises the key limitations of these studies.

The data sets

Selection of survey participants

Whereas the response rate for the National Survey was 78%, this rate was much lower for the PATH Through Life Project where 58.6% of young adults who were located and in the correct age range agreed to participate in the study. Of those aged 40 to 44, the comparable figure was 64.6%. Those who chose to participate in the PATH surveys may not have been representative samples of their age groups.

Sociodemographic information

The publicly available data set from the National Survey included information on individuals' main sources of income but not data items concerning individuals' comparative levels of income. One data item, the individual's score on an index of relative socio-economic disadvantage, was expected to provide such information. Preliminary analysis, however, indicated that the validity of this measure was questionable and it was not included in the analyses.

Health service utilisation information

With the exception of the health service data obtained for the PATH cohort of young adults, the health care utilisation data analysed in this study was self-reported. Information on services obtained, practitioners providing those services or types of help obtained could not be confirmed from other sources. It has been found that, although individuals may underestimate numbers of health services obtained during a specified short period, such discrepancies are less likely to occur when

individuals are asked for their health care patterns over a longer time period (Marshall, 2000; Ritter et al, 2001).

The format of the National Survey data available to the public used inconsistent strategies for grouping and coding health service utilisation data. As a result, the analyses that explored these data applied logistic regression techniques with a corresponding loss of information about Australians' patterns of mental health service utilisation. Lin and co-authors (1982), for example, found that many of those using formal health care for mental health problems lost contact with the health care system after their first consultation and often before those problems had been satisfactorily treated.

Mental health status

Respondents in the National Survey were identified as having a common mental disorder by their meeting the criteria for such disorders as specified by the CIDI diagnostic instrument. The data provided to researchers identified respondents as having, or not having, the diagnosis with no information on the impact of such subthreshold symptoms on health care use was not available. Such sub-clinical conditions, however, may involve functional impairment and benefit from formal treatment (Fava, 1999; Lewinsohn et al, 2000; Rapaport and Judd, 1998). The CIDI has also been criticised for overestimating the prevalence of mental disorder in survey respondents (Brugha et al, 2001; Regier et al, 1998). There are similar reservations about the validity of the CIDI-SF used in the PATH surveys.

Omissions

Although the National Survey recorded whether respondents were indigenous Australians, for confidentiality reasons this information was not included in the data set made available to the public. This is a small but important subgroup of Australians whose health status continues to be much poorer than the general

population (Commonwealth Department of Health and Aged Care, 2000a). Provision of adequate and culturally appropriate care to these Australians to meet their mental and physical health needs is a critical but complex task on which there appears to have been only limited headway (Hunter, 1997).

Conclusions

The findings of this study have filled important gaps in the information on Australians' access to mental health care on the basis of need. After examining factors that determine whether Australians obtain help for common mental health problems, this study has found that, in the main, those who obtained such help were identified by their having a need for that care. Under our current health care system, Australians now enjoy reasonable equity of access to mental health care on the basis of need. Some personal and health system-related factors, however, do play a part in determining which Australians have access to needed mental health help. Changes in Australia's mental health care system will be required if the impact of such factors is to be reduced. This study has identified possible routes by which such improvements could be achieved, to ensure Australians have more equitable access to health care for their mental health needs in the future.

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APPENDICES

APPENDIX 1

Parslow RA, Jorm AF (2000). Who uses mental health services in Australia? An analysis of data from the National Survey of Mental Health and Well-being. Australian and New Zealand Journal of Psychiatry; 34:997-1008.

Who uses mental health services in Australia? An analysis of data from the National Survey of Mental Health and Wellbeing

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Objective: This study sought to identify sociodemographic and psychological measures associated with utilisation of mental health services in Australia, using information collected through the 1997 National Survey of Mental Health and Wellbeing.
Method: Twenty-one potential predictor variables were selected from the National Survey. Predisposing and enabling factors included age, sex, marital status, labour force status, geographical location and level of education. Predictor variables measuring need for services included the General Health Questionnaire score, a neuroticism scale, diagnoses of affective, anxiety and substance-abuse disorders from the Composite International Diagnostic Interview, and self-identified depression, anxiety and substance abuse. Simple and multiple logistic regressions were undertaken to identify predictor variables associated with use of mental health services from general practitioners, psychiatrists, psychologists and other health professionals.
Results: General practitioners were the most commonly reported providers of mental health services with 76% of those receiving any mental health care reporting using this type of service. Using multiple logistic regression, the predictor variables most associated with use of mental health services were measures of the need for such services, such as psychological distress and mental disorder. After controlling for need variables, the sociodemographic variables associated with using services provided by any health professional were being female, level of education and being separated. Living in a remote area was associated with lower use of specialist services, but not with general practitioner services. Older age was associated with less use of psychologists and other health professionals. Income and having a usual language other than English did not affect service use.
Conclusions: The factors most strongly related to Australians' use of mental health services are their having a diagnosed affective, anxiety or substance-abuse disorder and their self-identifying as having depression or anxiety. Although there are regional inequalities in levels of utilisation of mental health services, these are seen more with specialist services than with those provided by general practitioners.
Key words: Australia, general practitioners, mental health services, psychiatrists, psychologists, sociodemographic factors.

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It has long been recognised that those who meet criteria for clinical diagnosis of mental disorder in population surveys, those who self-identify as having a mental health problem in such surveys and those who use primary or specialist mental health services, comprise three different subgroups of the community.

There is only partial overlap between them. Various writers, having explored the overlap and mismatch between these three groups in different countries, have hypothesised reasons for this weak relationship between existence of mental disorder and utilisation of mental health services [1–6].

In the following analysis, this issue is considered from the perspective of the behavioural model developed by Andersen and Newman [7] which identified three categories of predictor variables considered likely to be associated with patterns of health service utilisation: need, predisposing and enabling variables.

Need factors

From a mental health services perspective, Andersen and Newman's need predictor variables cover an individual's self-assessment of having mental health problems, and clinical diagnosis of the individual having such problems. Other relevant health factors would include the individual's level of psychological distress [8]. Zola [9] and Galbaud du Fort *et al.* [10] have proposed that individuals can accommodate many symptoms of psychological distress for some time without seeking help. It is only when they encounter the added stress of other factors, for example, in work or personal life, that they decide to seek professional help [11]. It has also been reported that increased age is related to higher need for mental health services, although this may result primarily in greater use of general medical services [12,13].

Predisposing factors

Predisposing variables relate to the individual's propensity to use mental health services and attitudes towards receiving mental health care. An individual's propensity to use formal health services for mental health problems is likely to be related to that person's willingness to adopt the sick role and help-seeking behaviour [14,15]. Analyses of general help-seeking behaviour indicate that women are more willing to undertake such help-seeking actions [12]. Those with fewer psychosocial assets or with existing physical health problems are also more likely to seek mental health help from the formal health-care system [11,12], as are those with previous experience of formal mental health care [15]. Others may use mental health services to enable them to achieve greater human potential [16,17].

Individual attitudes towards receiving formal mental health care are likely to be related to views concerning whether such treatment is required, the value of such treatment and whether the individual may be stigmatised as a result [18,19]. Some with mental disorders may consider their symptoms to be normal experiences [20], while others may rate various self-help and coping strategies as more useful than professional help for such problems [21,22].

Enabling factors

These factors include organisational factors affecting the affordability and availability of mental health services. Cost of services to the individual will be reduced should they have health insurance [3,23]. In Australia, individuals are reimbursed for general practitioner and psychiatrist visits under the universal health insurance scheme, Medicare, whereas services provided by privately practising psychologists and counsellors are not covered by this system. Services from such practitioners as social workers or drug counsellors are likely to be provided by professionals in community-funded positions at no cost to the individual.

Equitable provision of health care in all regions, metropolitan, rural and remote, is a difficult task for governments in Australia and various other countries [13]. Individuals will also perceive barriers to use of mental health services if those services are not provided in a culturally appropriate manner or in the individual's usual language [5]. Other relevant enabling factors include the individual's awareness that such services exist and understanding of the assistance such services might provide. These factors may relate both to the individual's level of education and the extent of their social networks [2,5].

Inequalities in the use of mental health services in Australia

Various writers who have explored the applicability of Andersen's behavioural model to mental health care utilisation have found that need factors override predisposing and enabling factors in explaining levels and patterns of utilisation of mental health services [24,25]. Inequalities in the availability and affordability of such services across different population groups are indicated when sociodemographic factors are found to be related to utilisation levels over and above the prevalence of mental disorder in those groups. In a fair, equitable health-care system,

rates of service utilisation by different population groups should be determined only by the morbidity levels of those groups.

In Australia, it has been difficult to estimate levels of utilisation of mental health services and to identify sociodemographic factors related to levels of utilisation while controlling, at the same time, for mental disorder prevalence levels. To date, few reports have addressed this issue [26]. This shortfall has now been partly addressed by the completion of the National Survey of Mental Health and Wellbeing. This survey of a representative sample of Australians aged 18 and over, living in the community, was conducted in 1997 by the Australian Bureau of Statistics (ABS). Information collected included sociodemographic, physical and psychological health measurements, levels of utilisation of general and specialist medical services for treatment of mental health problems and satisfaction with such services. Access to this data has allowed us to explore sociodemographic and psychological factors associated with using different types of health services for treatment of mental health problems in the Australian setting. In this paper, factors associated with utilisation levels are considered both separately and in combination, allowing us to identify sociodemographic factors contributing to utilisation levels, while controlling for mental health status. The results of these analyses are reported in this paper.

Methods

The National Survey

The National Survey was conducted throughout Australia in 1997. The survey sample comprised residents of private dwellings and participation was voluntary [27]. Approximately 13 600 dwellings were approached with one person aged 18 years or over in each dwelling randomly chosen to participate. In total, 10 641 persons completed the survey interview giving a response rate of 78%.

Sociodemographic details collected from each participant included age, sex, marital status, household structure, languages used, level of education attained and labour force details. General measures of mental health and wellbeing included the 12-item General Health Questionnaire (GHQ) [28] and the Neuroticism scale of the short form of the Revised Eysenck Personality Questionnaire (EPQ-R) [29]. The reliability and validity of these instruments have been previously confirmed [30]. Participants were asked about their having any of 12 chronic physical conditions. Self-reported levels of disability associated with mental health problems were also collected.

Detailed information on the mental health of each individual was obtained using the Composite International Diagnostic Interview (CIDI), a computerised version of which, including diagnostic algorithms, was developed for this survey. Numerous studies have examined the reliability and validity of the CIDI [31], while others have raised concerns about the potential for this instrument to provide overestimates of the prevalence of mental disorders in the community [32]. After completing the CIDI, participants were asked to identify the self-reported health problem that troubled them the most, allowing identification of those whose main self-identified health problem was a mental health problem. Finally, participants were asked about their use of health services.

For those self-identifying as having mental health problems (for example, months of worry or periods of sadness), information on types and levels of health services obtained for any mental health problem was collected. Other writers have found self-report of using or not using medical services to be a valid measure, although frequency of use in a short period may be less valid [Marshall RP: unpublished data]. This is not of concern in this analysis since the principal statistical tool used was logistic regression, with the dependent variable being whether or not the participant reported any utilisation of different types of health service.

Our main foci for self-diagnosed mental disorder, CIDI-diagnosed mental disorders and health service utilisation, were the common mental disorders of affective disorder, anxiety and substance abuse. Participants were classified as having clinically diagnosed affective, anxiety or substance abuse disorders if they were given one or more of the relevant ICD-10 codes. These broad categories of mental disorder were selected over more specific diagnoses since many of the latter have low prevalence rates and high comorbidity with other diagnoses in the same category, thereby limiting their usefulness in analyses of community-based surveys. Finally, each participant's survey information included weighting factors provided by the ABS. These factors gave survey estimates conforming to independent estimation of the Australian population during the time of the survey and allowed reliable, population-level estimates of variables to be calculated.

Statistical analysis

Preliminary statistical analysis gave levels of self-identified mental health problems, CIDI diagnoses and health service utilisation. The four categories of mental health services considered were those provided by: general practitioners, psychiatrists, psychologists, other health service professionals, and a fifth category, services provided by any of these practitioners. The category of 'other health professionals' covered drug and alcohol counsellors, other counsellors, nurses, mental health teams, chemists and ambulances.

Using logistic regression analysis, 21 predictor variables (listed in Table 1) including socio-demographic measures, psychological measures, self-identified mental health problems and CIDI-diagnosed mental disorders were entered separately, and then simultaneously, to obtain measures of associations between these factors and use of the five different categories of formal mental health services. Logistic regressions were used when the dependent variable had only two values (for example, whether or not a mental health visit to a psychiatrist was reported). Simple logistic regression estimates the magnitude of association between that dependent variable and a single predictor variable (for example, education level), and multiple logistic regression provides estimates of associations between the dependent variable and each of a number of predictor variables. Simultaneous multiple regression allows us to measure the association between the dependent variable and sociodemographic variables, for example, education, while controlling for any differences in mental health status between those with different levels of education. Standard errors of prevalence estimates and confidence intervals around odds ratios were derived using the statistical package STATA Release 5 [33].

Results

Table 2 shows the percentages of those with self-diagnosed mental health problems and with CIDI-diagnosed mental disorders who reported

Table 1. Use of formal health services for mental health problems: predictor variables in the regression analyses

Variable	Description	Predictor variable score
Age	Mean age group	40–44 years
Sex	Percentage female	50.8
Rural	Percentage living in rural region	12.0
Remote	Percentage living in remote region	15.3
Education	Percentage studying for, or completed, tertiary education qualification	56.0
Usual language	Percentage whose usual language spoken was not English	6.8
Living alone	Percentage living in one-person households	11.7
Separated	Percentage separated	2.9
Divorced	Percentage divorced	5.2
Income	Percentage primarily on government income, pension, allowance or benefit	28.2
Unemployed	Whether unemployed	4.2
GHQ score	Mean GHQ score	0.93
EPQ-R Neuroticism score	Mean EPQ-Neuroticism score	2.60
Days out of role	Mean number of days in last month unable to carry out usual daily activities	1.86
Physical conditions	Mean number of physical conditions self-identified from a given list of 12	0.63
Affective disorder	Percentage diagnosed with CIDI affective disorder	7.3
Anxiety disorder	Percentage diagnosed with CIDI anxiety disorder	9.5
Substance-abuse disorder	Percentage diagnosed with CIDI substance-abuse disorder	7.6
Self-identified depression	Percentage whose main self-identified health problem was depressive symptoms	2.9
Self-identified anxiety	Percentage whose main self-identified health problem was anxiety symptoms	9.4
Self-identified substance abuse	Percentage whose main self-identified health problem was alcohol or drug dependence	1.2

CIDI, Composite International Diagnostic Interview; EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

using various categories of formal services for mental health reasons. General practitioners provided most mental health services, with 76% of those receiving any mental health care reporting obtaining services from this group. As expected, levels of service use for those with self-diagnosed mental health problems or with CIDI-diagnosed affective or anxiety disorders were considerably higher than for the population as a whole. Tables 3–7 give the results of the simple and simultaneous multiple logistic regressions. Tables 8 and 9 summarise the patterns of significant associations found from these analyses.

Table 2. Percentage of those with self-diagnosed or CIDI-diagnosed mental disorders using formal health services by type of disorder

Respondents with mental health status	Percentage using for mental health reasons				
	GPs	Psychiatrists	Psychologists	Other health professionals	Any health professional
Self-diagnosed					
Depression	52.3	13.4	13.1	22.5	66.5
Anxiety	24.0	7.2	5.3	12.1	31.6
Substance abuse	13.1	5.2	1.5	10.9	18.7
CIDI-diagnosed					
Affective disorder	49.1	12.2	11.8	21.3	60.4
Anxiety	36.6	10.0	8.7	15.9	45.2
Substance abuse	20.6	5.3	5.4	12.5	27.9
All survey respondents	8.2	1.8	1.5	3.6	10.8

CIDI, Composite International Diagnostic Interview; GP, general practitioner

Table 3. Odds ratios for associations between sociodemographic and psychological measures and reporting mental health-related visits to a general practitioner

Predictor variable	Odds ratios and 95% confidence intervals	
	Simple regression	Simultaneous multiple regression
Age	0.97 (0.95–0.99)*	1.02 (0.99–1.06)
Sex (female)	1.89 (1.24–2.90)*	1.61 (1.02–2.54)*
Rural	1.14 (0.92–1.40)	0.97 (0.73–1.29)
Remote	0.79 (0.49–1.27)	0.83 (0.38–1.78)
Education	0.89 (0.77–1.01)	1.05 (0.88–1.23)
Usual language not English	0.57 (0.33–0.97)*	0.51 (0.25–1.02)
Living alone	1.19 (0.98–1.43)	0.78 (0.58–1.06)
Separated	2.91 (2.20–3.86)*	1.78 (1.16–2.74)*
Divorced	2.09 (1.57–2.80)*	1.69 (0.76–3.77)
Income	1.39 (1.03–1.87)*	0.91 (0.63–1.31)
Unemployed	1.42 (0.88–2.28)	0.82 (0.39–1.76)
GHQ score	1.35 (1.30–1.39)*	1.08 (1.01–1.15)*
EPQ-R Neuroticism score	1.40 (1.34–1.45)*	1.14 (1.06–1.23)*
Days out of role	1.04 (1.02–1.07)*	1.01 (0.99–1.02)
Physical condition	1.25 (1.10–1.43)*	1.08 (0.92–1.26)
Affective disorder	18.40 (14.45–23.43)*	5.16 (3.59–7.42)*
Anxiety disorder	10.45 (8.69–12.57)*	2.64 (2.00–3.48)*
Substance-abuse disorder	3.35 (2.76–4.07)*	1.68 (1.26–2.25)*
Self-identified depression	14.80 (10.84–20.22)*	1.97 (1.21–3.22)*
Self-identified anxiety	4.48 (3.68–5.46)*	1.63 (1.26–2.10)*
Self-identified substance abuse	1.70 (0.65–4.43)	0.89 (0.22–3.54)

*$p < 0.05$. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

Table 4. Odds ratios for associations between sociodemographic and psychological measures and reporting mental health-related visits to a psychiatrist

Predictor variable	Odds ratios and 95% confidence intervals	
	Simple regression	Simultaneous multiple regression
Age	0.95 (0.91–0.99)*	0.97 (0.91–1.04)
Sex (female)	1.23 (0.88–1.73)	0.85 (0.55–1.31)
Rural	0.82 (0.51–1.31)	0.56 (0.34–0.93)*
Remote	0.50 (0.27–0.94)*	0.46 (0.24–0.89)*
Education	1.10 (0.83–1.45)	1.41 (1.04–1.91)*
Usual language not English	0.30 (0.04–2.15)	0.25 (0.03–2.22)
Living alone	1.45 (0.99–2.11)	0.98 (0.65–1.49)
Separated	3.04 (1.84–5.01)*	1.30 (0.71–2.38)
Divorced	2.04 (1.11–3.77)*	1.33 (0.70–2.54)
Income	1.77 (1.26–2.49)*	1.38 (0.90–2.13)
Unemployed	1.19 (0.51–2.80)	0.51 (0.18–1.41)
GHQ score	1.32 (1.27–1.37)*	1.01 (0.93–1.10)
EPQ-R Neuroticism score	1.46 (1.40–1.53)*	1.20 (1.11–1.28)*
Days out of role	1.06 (1.03–1.09)*	1.04 (1.00–1.07)
Physical conditions	1.27 (1.09–1.47)*	1.05 (0.89–1.25)
Affective disorder	14.20 (9.98–20.21)*	2.81 (1.55–5.11)*
Anxiety disorder	11.76 (7.39–18.74)*	2.25 (1.33–3.83)*
Substance-abuse disorder	3.63 (2.37–5.56)*	1.05 (0.65–1.70)
Self-identified depression	10.50 (6.98–15.79)*	2.57 (1.22–5.41)*
Self-identified anxiety	6.16 (4.37–8.68)*	2.69 (1.72–4.22)*
Self-identified substance abuse	3.09 (1.34–7.15)*	2.29 (0.80–6.61)

*p < 0.05. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

Table 5. Odds ratios for associations between sociodemographic and psychological measures and reporting mental health-related visits to a psychologist

Predictor variable	Odds ratios and 95% confidence intervals	
	Simple regression	Simultaneous multiple regression
Age	0.88 (0.85–0.92)*	0.92 (0.85–0.99)*
Sex (female)	1.77 (1.20–2.61)*	1.46 (0.91–2.34)
Rural	1.12 (0.55–2.31)	0.95 (0.50–1.82)
Remote	0.42 (0.22–0.82)*	0.49 (0.28–0.85)*
Education	1.56 (1.04–2.34)*	1.75 (0.99–3.12)
Usual language not English	0.57 (0.09–3.76)	0.55 (0.06–4.75)
Living alone	1.61 (1.16–2.23)*	1.29 (0.79–2.12)
Separated	4.51 (1.82–11.18)*	2.17 (0.73–6.42)
Divorced	1.66 (0.86–3.20)	1.19 (0.57–2.46)
Income	0.97 (0.53–1.79)	0.70 (0.29–1.71)
Unemployed	1.32 (0.56–3.07)	0.61 (0.26–1.46)
GHQ score	1.35 (1.29–1.42)*	1.07 (1.01–1.13)*
EPQ-R Neuroticism score	1.38 (1.29–1.46)*	1.07 (0.99–1.16)
Days out of role	1.04 (1.02–1.06)*	1.02 (0.99–1.05)
Physical conditions	1.05 (0.82–1.35)	0.95 (0.72–1.26)
Affective disorder	18.87 (13.98–25.46)*	4.75 (2.90–7.78)*
Anxiety disorder	12.59 (9.39–16.90)*	2.99 (2.00–4.46)*
Substance-abuse disorder	4.69 (3.15–7.00)*	1.75 (1.02–3.01)*
Self-identified depression	12.90 (8.18–20.33)*	1.71 (0.87–3.35)
Self-identified anxiety	4.90 (3.26–7.34)*	1.60 (0.94–2.70)
Self-identified substance abuse	0.97 (0.29–3.22)	0.38 (0.10–1.45)

*p < 0.05. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

Table 6. Odds ratios for associations between sociodemographic and psychological measures and reporting mental health-related visits to any other health professional

Predictor variable	Odds ratios and 95% confidence intervals	
	Simple regression	Simultaneous multiple regression
Age	0.87 (0.84–0.91)*	0.89 (0.85–0.93)*
Sex (female)	1.77 (1.33–2.36)*	1.55 (1.27–1.89)*
Rural	1.23 (0.84–1.82)	1.10 (0.71–1.72)
Remote	0.75 (0.42–1.33)	0.94 (0.45–1.98)
Education	1.21 (0.95–1.54)	1.39 (1.03–1.89)*
Usual language not English	0.70 (0.27–1.81)	0.73 (0.27–2.00)
Living alone	1.33 (1.00–1.76)	1.17 (0.82–1.65)
Separated	3.74 (2.70–5.18)*	2.04 (1.27–3.26)*
Divorced	2.20 (1.54–3.15)*	1.92 (1.18–3.12)*
Income	1.65 (1.26–2.16)*	1.32 (0.99–1.75)
Unemployed	2.79 (1.41–5.54)*	1.29 (0.57–2.94)
GHQ score	1.33 (1.29–1.37)*	1.08 (1.02–1.14)*
EPQ-R Neuroticism score	1.35 (1.30–1.41)*	1.09 (1.02–1.17)*
Days out of role	1.04 (1.02–1.06)*	1.01 (0.99–1.03)
Physical conditions	1.12 (0.97–1.29)	1.05 (0.88–1.24)
Affective disorder	12.04 (9.31–15.58)*	3.01 (1.86–4.89)*
Anxiety disorder	8.08 (6.75–9.68)*	1.69 (1.22–2.34)*
Substance-abuse disorder	4.84 (3.05–7.70)*	1.94 (1.02–3.70)*
Self-identified depression	9.29 (6.87–12.50)*	2.01 (1.17–3.45)*
Self-identified anxiety	4.96 (3.47–7.08)*	2.08 (1.29–3.70)*
Self-identified substance abuse	3.38 (1.82–6.24)*	1.73 (0.76–3.94)

*p < 0.05. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

Table 7. Odds ratios for associations between sociodemographic and psychological measures and reporting mental health-related visits to any health professional

Predictor variable	Odds ratios and 95% confidence intervals	
	Simple regression	Simultaneous multiple regression
Age	0.95 (0.92–0.97)*	0.99 (0.96–1.03)
Sex (female)	1.83 (1.26–2.64)*	1.61 (1.09–2.39)*
Rural	1.03 (0.85–1.25)	0.86 (0.65–1.13)
Remote	0.71 (0.49–1.04)	0.74 (0.38–1.43)
Education	1.05 (0.94–1.20)	1.28 (1.08–1.52)*
Usual language not English	0.70 (0.40–1.20)	0.62 (0.27–1.42)
Living alone	1.19 (0.96–1.49)	0.85 (0.58–1.27)
Separated	3.04 (2.25–4.13)*	2.04 (1.15–3.64)*
Divorced	2.20 (1.76–2.74)*	1.93 (0.99–3.75)
Income	1.35 (1.06–1.72)*	0.99 (0.70–1.38)
Unemployed	1.49 (1.06–2.08)*	0.79 (0.46–1.34)
GHQ score	1.38 (1.35–1.41)*	1.11 (1.04–1.18)*
EPQ-R Neuroticism score	1.40 (1.36–1.45)*	1.15 (1.07–1.22)*
Days out of role	1.05 (1.03–1.07)*	1.01 (1.00–1.03)
Physical conditions	1.20 (1.07–1.34)*	1.05 (0.92–1.20)
Affective disorder	20.56 (16.33–25.90)*	5.24 (3.19–8.60)*
Anxiety disorder	10.64 (8.74–12.95)*	2.61 (2.03–3.36)*
Substance-abuse disorder	3.72 (3.14–4.40)	1.94 (1.44–2.60)*
Self-identified depression	19.79 (15.48–25.30)*	2.65 (1.53–4.60)*
Self-identified anxiety	4.91 (4.06–5.95)*	1.81 (1.42–2.31)*
Self-identified substance abuse	1.91 (0.90–4.04)	0.92 (0.30–2.85)

*p < 0.05. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire.

Table 8. Significant associations resulting from simple logistic regressions between sociodemographic and psychological measures, and reporting mental-health related visits to each category of health practitioner

	Significant associations resulting from simple logistic regressions between predictor variables and making mental health visits to				
Predictor variable	**GP**	**Psychiatrist**	**Psychologist**	**Other health professional**	**Any health professional**
Age	–	–	–	–	–
Sex (female)	+		+	+	+
Rural					
Remote		–	–		
Education			+		
Usual language not English	–				
Living alone			+		
Separated	+	+	+	+	+
Divorced	+	+		+	+
Income	+	+		+	+
Unemployed				+	+
GHQ score	+	+	+	+	+
EPQ-R Neuroticism score	+	+	+	+	+
Days out of role	+	+	+	+	+
Physical conditions	+	+			+
Affective disorder	+	+	+	+	+
Anxiety disorder	+	+	+	+	+
Substance-abuse disorder	+	+	+	+	+
Self-identified depression	+	+	+	+	+
Self-identified anxiety	+	+	+	+	+
Self-identified substance abuse		+		+	

+, Positive association between use of this type of mental health service and predictor variable; –, negative association between use of this type of mental health service and predictor variable. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire; GP, general practitioner.

Associations common for all types of services

From the simple logistic regressions, it was found that nine predictor variables were positively associated with use of each of the five categories of mental health services: being separated, GHQ and EPQ-R Neuroticism scores, days out of role, having CIDI-diagnosed affective, anxiety or substance-abuse disorders and self-identifying as having depression or anxiety. A tenth variable, age group, was negatively associated with use of each category of service.

From the simultaneous multiple regressions, only two predictor variables, having CIDI-diagnosed depression or anxiety, were significantly associated with receiving each type of mental health service. In the remainder of this section, we report the significant associations found in these analyses that were not common to all categories of mental health services.

General practitioner services

With simple logistic regression, four more variables were found to be significantly associated with visiting a general practitioner for mental health reasons: being female, having English as usual language, being divorced or on government pension. When controlling for measures of mental disorder and psychological distress, two sociodemographic variables were significant predictors of mental health visits to general practitioners: being female and being separated. As well as CIDI-diagnosed affective and anxiety disorders (identified as common to all types of services), variables positively associated with reporting general practitioner visits were CIDI-diagnosed substance-abuse disorder, self-identified depression and anxiety and two psychological measures, the GHQ and EPQ-R Neuroticism scores.

Table 9. Significant associations resulting from simultaneous multiple logistic regressions between sociodemographic and psychological measures, and reporting mental health-related visits to each category of health practitioner

	Significant associations resulting from simultaneous multiple logistic regressions between predictor variables and making mental health visits to				
Predictor variable	**GP**	**Psychiatrist**	**Psychologist**	**Other health professional**	**Any health professional**
Age			–	–	
Sex (female)	+			+	+
Rural		–			
Remote		–	–		
Education		+		+	+
Usual language not English					
Living alone					
Separated	+			+	+
Divorced				+	
Income					
Unemployed					
GHQ score	+		+	+	+
EPQ-R Neuroticism score	+	+		+	+
Days out of role					
Physical conditions					
Affective disorder	+	+	+	+	+
Anxiety disorder	+	+	+	+	+
Substance-abuse disorder	+		+	+	+
Self-identified depression	+	+		+	+
Self-identified anxiety	+	+		+	+
Self-identified substance abuse					

+, Positive association between use of this type of mental health service and predictor variable; –, negative association between use of this type of mental health service and predictor variable. EPQ-R, Revised Eysenck Personality Questionnaire; GHQ, General Health Questionnaire; GP, general practitioner.

Psychiatrist services

With simple logistic regression, five non-common results were found. Reporting mental health visits to a psychiatrist was positively associated with being divorced or on a government pension, number of physical conditions and having self-identified substance abuse. It was also negatively associated with being in a remote location. Using multiple logistic regression analysis, four non-common variables were positively associated with using these services: higher education, EPQ-R Neuroticism Score, and self-identified depression and anxiety, while two variables were negatively associated: living in a rural or remote location.

Psychologist services

Simple logistic regression indicated that three non-common variables were positively associated with using psychologist services: being female, having or undertaking higher education and living alone. Living in a remote area, however, was negatively associated with using these services. Using multiple logistic regression, two variables were positively associated with using these services: GHQ score and self-identifying as having CIDI-diagnosed substance-abuse disorder. Two sociodemographic variables were negatively associated with using such services: being older and living in a remote location.

Other health professionals' services

With simple logistic regression, five non-common variables were associated with use of any other health professional: being female, divorced, on a government pension, or unemployed and self-identifying as having substance abuse. With multiple logistic regression, nine further variables were significantly, positively associated with use of these services: being female, having or undertaking higher education, being separated or divorced, GHQ and

EPQ-R Neuroticism scores, CIDI-diagnosed substance abuse disorder and self-identified depression and anxiety.

Any mental health services

Finally, using simple logistic regressions, five predictors not common to all types of services were positively associated with using any health professional for mental health reasons: being female, being divorced, on a government pension or unemployed and number of physical conditions. Using multiple logistic regression, eight further variables were associated with use of any mental health services: being female, having or undertaking higher education, being separated, GHQ and EPQ-R Neuroticism scores, self-identified depression or anxiety and CIDI-diagnosed substance abuse disorder.

Discussion

In these analyses, we set out to identify factors associated with Australians' use of formal health services for mental health reasons, first through simple logistic regression and then controlling at the same time for measures of psychological distress and mental disorders. Various conclusions can be drawn from these results.

Levels of utilisation of services by those with CIDI-diagnosed or self-identified affective or anxiety disorder are encouraging. As shown in Table 2, over 60% of those with CIDI-diagnosed affective disorder had obtained services from the formal mental health-care system in the past year. The corresponding figure for those with CIDI-diagnosed anxiety disorder was approximately 45%. These results would appear to rate well against similar measures reported from other countries [34,35].

While our results may be taken as an indication of the level of met need for mental health services, they are necessarily limited by our using categorical measures by which an individual either does or does not meet criteria for clinical diagnosis of mental disorder. Those with subclinical levels of depression, for example, may have functional impairment and could benefit from formal treatment [36]. Potential needs of this group are not considered when categorical measures of mental disorder are applied. Differences in severity of disorders are also not considered for those meeting diagnostic criteria for mental disorder. The additional predictive value of GHQ and EPQ-R Neuroticism scores after mental disorder has been taken into account confirms that the CIDI categorical measures of mental disorder do not indicate all mental health service needs. As noted earlier, a further limitation of our analysis is the potential overestimation of mental disorder that could result from using the CIDI-diagnostic instrument. We also appreciate that our findings on factors associated with using mental health services relate only to services provided for those with the common mental disorders. Use of mental health services by those with psychotic disorders was not assessed in this survey.

Need factors related to use of mental health services

Although simple logistic regression indicated that numerous sociodemographic variables were associated with use of mental health services, multiple logistic regression presented a quite different picture. Only two variables were significantly associated with utilisation of all five categories of mental health service: CIDI-diagnosed affective and anxiety disorders. The odds of those with CIDI-diagnosed affective disorder using any mental health service were over five times greater than those without that diagnosis. Similarly, controlling for sociodemographic and other health measures, those meeting criteria for CIDI-diagnosed anxiety disorder had over two and a half times the odds of consulting any health practitioner about mental health problems, compared with those not meeting these criteria. The conclusion that can be drawn from our analyses is that the main predictors of individuals' using mental health services are their having CIDI-diagnosed mental disorders or self-identifying as having mental health problems.

Predisposing and enabling factors

From the multiple regression analyses, three sociodemographic variables were found to be significantly, positively associated with making mental health visits to any health practitioner. These were being female, being separated and having a higher education. It should be noted, however, that none of these predictors was significantly associated with use of each category of mental health services.

The propensity of females to seek help has already been noted. Reasons put forward to explain this trend include females' increased likelihood of adopting the help-seeking role or of self-identifying as having a mental health problem [24,37]. Being female was

associated with use of general practitioner services, the largest subgroup of mental health services. Females were significantly more likely than males to use services provided by 'other health professionals', but not services provided by psychiatrists and psychologists. Leaf and Bruce [38] similarly found women to be more likely to consult general practitioners, but not psychiatrists or psychologists, and noted that gender differences in utilisation were accounted for by differing attitudes towards such care, and not gender per se.

Being separated was significantly associated with use of any mental health service, as well as those provided by general practitioners and other health professionals, but not by psychologists or psychiatrists. This result is compatible with earlier findings that additional psychological distress, such as that which might result from relationship breakdown, is the factor that pushes individuals to seek this type of help [9,10]. It may also be that those dealing with this type of significant life event obtain sufficient counselling from general practitioners without needing specialist mental health care.

Finally, having or undertaking higher education has quite different effects across type of service provider. Those with higher education were not significantly more likely to use general practitioner services for mental health reasons, but were more likely to use psychiatrists, psychologists and other health professionals. Similar reports elsewhere have suggested that those with higher education define their health more broadly and have higher self-fulfilment needs [16,39], or view the use of such services more positively [40].

The previous paragraphs explored predictor variables significantly related to use of mental health services. It is also important to note the sociodemographic factors found to be not significantly associated with use of such services when multiple regression analysis was undertaken. Most Australians who obtain mental health services received them from general practitioners. Various sociodemographic variables that might have been expected to influence patterns of utilisation of general practitioner services, have not been found to do so when measures of mental disorder and psychological distress were taken into account. In our analysis, living in a rural or remote location, having or undertaking higher education, having a usual language other than English, being unemployed and being on government pension, allowance or benefit, were not significantly related to utilisation of general practitioner-provided mental health services. Similarly, living alone and number of physical conditions reported were not associated with level of use of this type of service. With respect to general practitioner-provided mental health services, it could thus be reasonably concluded that use of such services is not significantly affected by geographical location, education level and other broad measures of financial resources. Those in remote locations, however, do have lower levels of utilisation of specialist mental health services, while older Australians are less likely to use services provided by psychologists and other health professionals.

Conclusions

Overall, the major finding of this analysis is that the factors most strongly related to use of mental health services for the common mental disorders in Australia are having a CIDI-diagnosed affective, anxiety or substance abuse disorder and self-identifying as having mental health problems of depression and anxiety. This should be seen as a heartening result for those funding and providing Australia's mental health services given that these are the subsets of the community to whom such services are primarily targeted.

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APPENDIX 2

Parslow RA, Jorm AF (2001). Predictors of types of help provided to people using services for mental health problems: An analysis of the Australian National Survey of Mental Health and Well-being. Australian and New Zealand Journal of Psychiatry; 35:183-189.

Predictors of types of help provided to people using services for mental health problems: an analysis of the Australian National Survey of Mental Health and Wellbeing

Ruth A. Parslow, Anthony F. Jorm

Objective: Using the 1997 National Survey of Mental Health and Wellbeing, this study examined the types of mental health help provided to those Australians who use mental health services. We also sought to identify the extent to which sociodemographic factors, patterns of psychiatric morbidity and type of health practitioner seen were associated with receiving different types of mental health help.

Method: Multiple logistic regressions were undertaken to identify predictor variables associated with receiving information, medication, psychological therapy, practical help and help looking after oneself or one's home. A total of 25 predictor variables provided in the National Survey were considered including age, sex, marital status, labour force status, geographical location, education, psychological symptoms, neuroticism, diagnoses of affective, anxiety and substance-abuse disorders and self-identified depression, anxiety and substance abuse. The type of practitioner seen for mental health reasons was also considered.

Results: Of the sociodemographic factors, age was the most consistently associated with receiving particular types of help. Younger respondents were more likely to have received information whereas older patients reported receiving more medication. As might be expected, the type and severity of psychiatric morbidity and the category of health professional seen were also associated with receiving particular types of mental health help.

Conclusions: There are relatively few predictor variables that suggest possible bias in the types of help provided. Age group of recipient is an important exception. Our findings suggest that older recipients of mental health care are not provided the range of mental health treatments offered younger people who present with similar problems.

Key words: Australia, general practitioners, mental health help, mental health services, psychiatrists, sociodemographic factors.

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A behavioural model of health care utilization, such as that developed by Andersen and Newman [1], proposes that patterns of utilization of health services are related to individuals' needs for such services, their predisposition for using health services and enabling factors relating to both the individual (for example, level of education or income) and to the structure of the health-care system (for example, availability and accessibility of services). This perspective has been found to have relevance for predictors of utilization of mental health services by Australians [2]. However, these predictors relate only to whether or not services are used for mental health reasons and not to the type of help provided

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during the delivery of those services, a component recognized as important by Andersen and his collaborators in a later version of the model [3].

Types of mental health help

Any individual presenting with a mental health problem to a health professional may receive various types of health care. These include information about health problems and possible treatments, prescription of medication, counselling or psychotherapy, and practical advice. The type of help offered is likely to depend on variables relating to both the individual and the health practitioner, and the interaction occurring between these two players. Such variables will affect the individual's presentation of their problems and also the provider's assessment of those problems and selection of treatment of those problems.

Patient-related factors

An individual's presentation of a mental health problem will be associated with his or her understanding of that problem, and his or her ability to describe it to a health professional. Understanding of the problem will, in turn, be related to the individual's sociocultural conceptions of his or her difficulties and which symptoms are sufficiently distressing to warrant seeking formal help to relieve them [4]. Those with better understanding of mental disorder or previous experience of the problem may be more likely to present it clearly and may also be better able to specify the type of help they are seeking [5,6]. Such requests may be more likely to be met by the health practitioner than those less clearly expressed. In a study of doctor–patient communication, patients with higher levels of education were found to receive more information about their illnesses from medical practitioners when compared with those of lower education, but with similar health problems [7]. Similarly, those with mental health problems who were more communicative and adept at obtaining what they wanted were more likely to receive mental health treatment, in particular, some form of psychological therapy [6]. On the other hand, those with little understanding of their problem and no previous experience of effective treatments for that problem may not realize what help is available and have no appreciation of the advantages and disadvantages of different types of help. Such patients are likely to rely entirely on the practitioner to select the type of health care that they might receive [8]. To the practitioner, such patients may appear diffident, and, lacking the psychological vocabulary to describe their problem well, may describe their symptoms only vaguely, with little awareness of the types of health treatment that could be considered [4,7,8].

Factors relating to the health practitioner

Advice and treatment offered will also be affected by various factors associated with the practitioner [9]. These include the practitioner's perception of the mental health problem being presented. There may be only limited overlap between the practitioner's assessment and the patient's understanding of the mental health problem for which treatment is being sought [8]. In selecting treatment for the problem, the practitioner may also consider the potential efficacy of different treatment options that might be offered and the acceptability and affordability of those treatments for this particular patient. Whether options are presented to the patient in a negotiating process will depend on the practitioner's views concerning the potential value of such discussion [7]. To each of these steps, practitioners inevitably bring their own values and attitudes as well as their health-care knowledge and understanding of the needs of the patient [10]. Link and Milcarek [6] found, for example, that practitioners demonstrated a preference for providing psychological therapy to young, highly educated and communicative patients, while those who are older or less educated are less likely to receive individual psychological therapy and more likely to be given less personalized care. Waitzkin [7] also reported differences in types of care provided to males and females, with women receiving more doctor time and being given more explanations. Earlier studies noted that the practitioner's perception of the patient's knowledge might affect the treatment recommended [8]. Various external factors can also affect the practitioner's choice of treatment, including the time allocated for this particular episode of care, pressures to maintain a heavy appointment schedule [11], and legal restrictions, for example whether the practitioner is legally permitted to prescribe certain medications.

Types of help provided to those presenting with mental health problems in the Australian health-care setting have not previously been explored. However, some of the factors explored above have been considered, for example, in an analysis of the structure of verbal interactions in general practice, and pressures reported by general practitioners during those interactions [11]. Overall, there has been little information collected on the types of help provided to those using mental health services and on factors associated with provision of these different types of care. This limitation has now been addressed in part by the completion of the National Survey of Mental Health and Wellbeing. This survey of

a representative sample of Australians aged 18 and over living in the community was conducted in 1997 by the Australian Bureau of Statistics (ABS). The range of information collected covered sociodemographic, physical and psychological health measurements, levels of utilization of general and specialist medical services for treatment of mental health problems and the types of help provided as part of that treatment. Access to this data set has allowed us to explore the extent to which individuals' sociodemographic and psychological characteristics, as well as the types of practitioners from whom they received services, were associated with their obtaining particular types of help for mental health problems. We examined these associations using simultaneous multiple logistic regression analysis. This allowed us to assess the extent to which receiving particular types of help was related to each of the predictor variables, when controlling for other predictor variables, for example, mental health status of the recipient, or the type of practitioner providing that help.

Following Andersen and Newman's behavioural model [1], we considered three types of predictor variables: those relating to need for mental health services including diagnoses, symptoms of psychological distress and self-identified mental health problems; predisposing factors including age, sex, being separated or divorced; and enabling factors covering geographical location, education, income and whether the usual language spoken was English. Types of help included information about mental illness and its treatment; medication; psychological therapy; practical help to sort out problems concerning housing, money or ability to work; and help looking after oneself or one's home. We expected that types of help provided would largely be determined by need factors and the category of health practitioner seen. Other factors were expected to have a smaller role in determining the type of help provided. Should this not be the case, it would indicate inequalities in distribution of types of help for mental health problems.

Method

The National Survey

The National Survey was conducted throughout Australia in 1997. Response to this survey was voluntary and the survey sample drawn from residents of private dwellings [12]. Approximately 13 600 dwellings were approached with one person aged 18 years or over in each dwelling randomly chosen to participate in the survey. A total of 10 641 persons completed the survey interview giving a response rate of 78%.

Measures obtained

Sociodemographic details collected from each participant included age, sex, marital status, languages used, level of education, and employment status. Continuous measures of mental health and well-being included the General Health Questionnaire (GHQ) [13] and the Neuroticism scale of the short form of the Eysenck Personality Questionnaire – Revised (EPQ-R) [14]. The reliability and validity of these instruments have been previously confirmed [15]. Participants were also asked whether they had any of the following 12 chronic physical conditions: asthma, chronic bronchitis, anaemia, high blood pressure, heart trouble, arthritis, kidney disease, diabetes, cancer, stomach or duodenal ulcer, chronic gallbladder or liver trouble, and hernia or rupture.

Information on the mental health of each individual was obtained using those components of the Composite International Diagnostic Interview (CIDI) relating to affective, anxiety and substance-abuse disorders. While the reliability and validity of the CIDI has been assessed by a number of studies [16], other writers have expressed concern about the potential for this instrument to provide overestimates of the prevalence of mental disorder in the community [17]. The survey also included the Brief Disability Questionnaire, a standard questionnaire measuring general levels of disability in the 4 weeks before the interview, as well as a question on the number of days spent out of role over that period as a result of ill health. Respondents were asked to identify their most troubling mental health problem and the extent to which that particular problem had limited their activities.

Survey participants were also questioned about their use of health services and the categories of health professionals from whom they had obtained health care in the past year. They were then asked to specify whether they sought help for mental health problems during any of those visits. Those receiving such help were asked whether they had received any of 10 types of interventions. We grouped these interventions into five broad categories: (i) information about mental illness, its treatments and available services; (ii) medication (medicine or tablets); (iii) psychological therapy covering psychotherapy (discussion about causes that stem from the past), cognitive–behavioural therapy (learning to change thoughts, behaviours, emotions) and counselling (help to talk though problems or advice about how to cope with them); (iv) practical help (help to sort out housing or money problems, or to improve ability to work or use time in other ways); (v) and self-care help (help to improve ability to look after self or home).

Participants were classified as having a CIDI-diagnosed affective disorder, anxiety disorder or substance-abuse disorder if they were given one or more of the relevant ICD-10 codes. These broad categories of mental disorder were selected over more specific diagnoses since many of the latter have low-prevalence rates and high comorbidity with other diagnoses in the same category, thereby limiting their usefulness in analyses of community-based surveys. Self-identified mental disorders were similarly classified into categories of depression, anxiety and substance abuse.

Statistical methods

We undertook simultaneous multiple logistic regression analysis using predictor variables which included sociodemographic measures, psychological measures, self-identified mental health problems and CIDI-diagnosed mental disorders and type of health practitioner who provided help. Respondents were asked from which types of practitioners they had obtained mental health help. We grouped practitioners into four categories: general practitioners, psychiatrists, psychologists and other health professionals. The fourth category covered drug and

alcohol counsellors, other counsellors, nurses, mental health teams, chemists and ambulances. We explored the effect of type of health-care provider by including in our regression analysis four predictor variables indicating whether or not mental health help had been obtained from general practitioners, psychiatrists, psychologists or other health professionals. All predictor variables are listed in Table 1. Each participant's survey information included a weighting factor provided by the ABS. Applying this factor gave survey estimates conforming to independent estimation of the Australian population during the time of the survey. Each survey record also included 30 replicate weights derived using the jackknife method of replication. Standard errors of prevalence estimates and confidence intervals for odds ratios were derived using the delete-1 jackknife method of replication [12]. Analysis was undertaken using the statistical package STATA Release 5 [18].

Results

We first obtained mean or median measures of: sociodemographic variables; levels of psychological distress; self-identified mental health problems; CIDI diagnoses; and numbers of visits to different categories of health professional for two subgroups of the sample. These subgroups comprised respondents who obtained any mental health help in the past year (11.1% of the population), and the remainder who did not obtain such help. These results are given in Table 1.

For each of the 25 predictor variables considered, the mean or median scores for those who obtained any form of mental health help were statistically significantly different to the scores of those who did not obtain such help. Those receiving such help were more likely to be younger, female, separated or divorced than their non-help-seeking

Table 1. Descriptions of predictor variables and mean or median scores of those variables for respondents receiving no mental health help and those receiving any mental health help

Predictor variable	Description	Predictor variable score: Not receiving any mental health help	Predictor variable score: Receiving mental health help*
Age	Mean age range	40–44	35–39
Sex	Percentage female	49.1	64.0
Rural	Percentage living in rural region	12.0	12.2
Remote	Percentage living in remote region	15.8	11.7
Education	Percentage studying for, or completed, tertiary education qualification	55.9	56.9
Usual language	Percentage whose usual language spoken is not English	7.0	4.9
Living alone	Percentage living in one-person households	11.5	13.4
Separated	Percentage separated	2.4	6.7
Divorced	Percentage divorced	4.7	9.6
On government pension	Percentage primarily on government income, pension, allowance or benefit	2.8	3.3
Unemployed	Percentage unemployed	4.0	5.7
GHQ score	Mean GHQ score	0.7	2.6
EPQ-R Neuroticism score	Mean EQP- R Neuroticism score	2.3	5.0
Days out of role	Mean number of days in last month unable to carry out usual daily activities	1.6	3.9
Physical conditions	Mean number of physical conditions self-identified from a given list of 12	0.6	0.8
Affective disorder	Percentage diagnosed with CIDI affective disorder	3.2	40.4
Anxiety disorder	Percentage diagnosed with CIDI anxiety disorder	5.8	39.2
Substance-abuse disorder	Percentage diagnosed with CIDI substance-abuse disorder	6.1	19.7
Self-identified depression	Percentage whose main self-identified health problem was depressive symptoms	1.0	18.3
Self-identified anxiety	Percentage whose main self-identified health problem was anxiety symptoms	7.1	27.3
Self-identified substance abuse	Percentage whose main self-identified health problem was alcohol or drug dependence	1.1	2.1
GP visit	Percentage to make any mental health visits to a GP in past 12 months	0.0†	73.8
Psychiatrist visit	Percentage to make any mental health visits to a psychiatrist in past 12 months	0.0†	16.1
Psychologist visit	Percentage to make any mental health visits to psychologist in past 12 months	0.0†	13.6
Other health professional visit	Percentage to make any mental health visits to other health professionals in past 12 months	0.0†	32.3

*Means, medians of two sub-groups statistically significantly different ($p < 0.05$) for all predictor variables. †Definition of variable results in a mean score of zero for those obtaining no mental health help. GHQ, General Health Questionnaire; EPQ-R, Eysenck Personality Questionnaire – Revised; CIDI, Composite International Diagnostic Interview.

counterparts. They were less likely to have a usual language other than English or to live in a rural or remote area. As might be expected, they also had higher mean GHQ and EPQ-R Neuroticism scores, and greater prevalence levels of the common psychiatric disorders of depression, anxiety and substance abuse.

Within this subpopulation of mental health help recipients, 55.9% reported receiving medication, 55.1% received some form of psychological therapy, 25.1% were given information, 10.6% reported receiving practical help, and 6.6% obtained self-care help. For each of five dependent variables relating to type of help obtained, we then undertook simultaneous multiple logistic regressions to identify predictor variables associated with receiving that type of help. The results of these analyses are in Table 2.

We found four variables to be significantly associated with receiving information: being younger and seeing general practitioners, psychiatrists or psychologists. Four predictor variables were significantly associated with receiving medication: being older, having a higher EPQ-R Neuroticism score, and seeing a general practitioner or a psychiatrist. Five variables were significantly associated with receiving psychological therapy: being separated, having a lower EPQ-R Neuroticism score, and seeing a psychiatrist, psychologist, or other health professional. Predictor variables positively associated with receiving practical help were being divorced, having self-identified anxiety, and seeing a psychologists or other health professional. Reporting visiting a general practitioner for mental health reasons, however, was negatively associated with receiving practical help. Finally, only one variable was found to be significantly associated with receiving self-care help: obtaining mental health help from a psychiatrist.

Discussion

In this analysis, we sought to identify sociodemographic and health-related variables associated with the type of help obtained when receiving mental health services from health professionals in Australia. Five categories of help were considered: obtaining information, medication, psychological therapy, practical help and self-care help. We used simultaneous multiple logistic regression to explore associations between types of help received and predictor variables measuring sociodemographic factors, psychological distress and type of practitioner from whom services were obtained.

Predisposing and enabling factors

Three predisposing factors (age, being separated and being divorced) were found to be associated with significant

Table 2. Odds ratios for associations of receiving information, medication, psychological therapy, practical help and self-care help with sociodemographic and psychological measures, and type of health practitioners from whom help was obtained

	Odds ratios for simultaneous multiple regression between predictor variable and receiving				
Predictor variable	Information	Medication	Psycho-logical therapy	Practical help	Help caring for self or home
Age group	0.90*	1.08*	0.94	0.91	1.01
Sex (female)	0.76	0.99	0.98	0.72	1.35
Rural	0.84	0.90	1.13	1.43	1.24
Remote	1.03	1.18	0.68	0.90	1.38
Education	1.21	0.76	1.29	1.54	1.27
Usual language not English	0.83	2.10	0.68	1.10	1.35
Living alone	0.77	1.42	0.95	1.07	1.31
Separated	0.99	1.20	1.86*	1.25	0.82
Divorced	1.10	1.05	0.85	1.83*	1.00
On government pension	1.31	1.01	0.92	0.83	1.03
Unemployed	0.59	0.56	1.18	1.87	2.06
GHQ score	0.97	1.01	1.01	1.00	1.09
EPQ-R Neuroticism score	1.05	1.10*	0.94*	0.96	0.93
Days out of role	0.99	1.02	0.99	1.02	1.03
Physical conditions	1.01	0.99	0.99	1.17	1.14
Affective disorder	1.30	1.30	1.51	1.65	0.74
Anxiety disorder	1.62	0.84	1.20	1.27	1.28
Substance abuse disorder	0.92	1.15	0.90	0.97	1.37
Self-identified depression	1.71	1.08	1.04	1.10	1.54
Self-identified anxiety	1.10	0.87	1.51	2.10*	1.45
Self-identified substance abuse	1.62	0.86	1.42	1.81	1.65
GP visit	2.33	3.39*	1.03	0.54*	0.56
Psychiatrist visit	4.76*	4.81*	8.56*	1.80	2.39*
Psychologist visit	2.51*	0.88	24.80*	2.14*	1.20
Other health professional visit	1.27*	1.02	7.76*	2.43*	1.76

*$p < 0.05$. GHQ, General Health Questionnaire; EPQ-R, Eysenck Personality Questionnaire – Revised

differences in receiving particular types of help. After controlling for diagnosed or self-identified mental disorders, younger patients were found to be more likely to receive information. This implies that lower levels of information provided to older people are not simply the result of their having different morbidity patterns. Reasons for such age-related variation in the provision of information about mental illness and its treatments cannot be determined from these analyses.

Older respondents were also more likely to report receiving medication. Again, this age difference occurred when controlling for psychological distress, mental illness and type of practitioner seen. This result does not appear incompatible with the previous finding. It may be that those receiving information about their illness and its treatments may be offered a wider range of types of help including various forms of psychological therapy. The question again is: was medication the preferred care option of older patients or was this the most expedient option selected by prescribing health professionals as care for older people?

Separated or divorced people were also more likely to obtain particular types of mental health help. Separated respondents were more likely to report obtaining some form of psychological therapy, and divorced respondents more likely to obtain practical help. While those who are separated may find this time of relationship breakdown distressing [19], it is less clear why those who are divorced may be more likely to obtain practical help.

Need factors

Only two of the measures of psychological distress explored in the multiple logistic regression analyses were found to be associated with particular types of help received. The EPQ-R Neuroticism score was significantly higher for respondents who obtained medication, and significantly lower for those who reported receiving psychological therapy. This second result suggests that perhaps practitioners do not favour patients with long-term symptoms for psychological therapy.

Those with self-identified anxiety were more likely to receive practical help. Concerns about such practical matters as house and money problems may well result in an individual self-identifying as anxious to the health professional. These findings indicate the potential relationship between a person's stressful life events, coping strategies and sources of support, all of which may contribute to a decision to seek formal treatment [4,19].

Factors relating to type of practitioner

We found that making a visit to a psychiatrist had the strongest association with receiving information, medication and self-care help and the second strongest association with receiving psychological therapy. This predictor variable, however, was the only practitioner-related variable to have no association with receiving practical help.

Visiting a psychologist was associated with receiving information, psychological therapy and practical help. Visiting a general practitioner for mental health reasons was positively associated with receiving information and medication, but negatively associated with receiving practical help. Use of other health practitioners was significantly associated with receiving psychological therapy or practical help.

In general, these results are not surprising, although the limited role of general practitioners as information providers and prescribers is relevant for current initiatives in Australia looking to expand the role of these practitioners in treating mental health problems [20].

Limitations of this analysis

A number of the variables considered in this analysis are based solely on survey participants' responses. There was no means of confirming the accuracy of answers concerning the type of practitioner used or the type of help received. While respondents not using health services in a specified short period (for example, the previous 2 weeks) have been found to report erroneously that they did use such services, variation in levels of self-reporting and actual use of health services over a longer period such as that specified in this survey, has been found to be of much less concern [Marshall RP: unpublished data].

This survey provided only minimal information on health practitioners seen by respondents over the period. We had no information on the personal attributes or practice arrangements of health practitioners whose services were reported, for example, levels of expertise and billing practices of general practitioners who provided services. Nor did we have information on the health insurance status of respondents. The limited information that was available on types of practitioners seen allows us to make only very broad comments about the types of health provided by different categories of health practitioner.

We also acknowledge that our findings relate only to services provided for the common mental disorders of depression, anxiety and substance abuse. We have not explored the type of help provided those with other less common psychiatric conditions. Our analysis is further limited by the use of the CIDI, given the potential of this instrument to overestimate mental disorder [17].

Conclusions

One conclusion to be made from these analyses is that relatively few of the predictor variables we examined were significantly associated with the types of help people reported as receiving for their mental health problems. Of the sociodemographic factors examined, age group was the only one that predicted type of help received, indicating possible bias in practitioners' selection and provision of mental health help. These findings would suggest that older people who seek help for mental health problems are not being provided the range of treatments available to younger people who present with similar problems. Further research to determine whether those providing mental health services offer different types of help to older patients would be of value in clarifying this issue.

These findings apart, it could be concluded that any associations between type of help provided and other sociodemographic or health-related attributes are subsumed by the patterns of health practitioner utilization. While there may be inequalities in levels and patterns of utilization of mental health services in Australia [2], there are few factors that significantly affect the types of help received by those who have been able to obtain any mental health help.

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APPENDIX 3

Parslow RA, Jorm AF (2001). Predictors of partially met or unmet need reported by consumers of mental health services: An analysis of data from the Australian National Survey of Mental Health and Well-being. Australian and New Zealand Journal of Psychiatry; 35:455-463.

Predictors of partially met or unmet need reported by consumers of mental health services: an analysis of data from the Australian National Survey of Mental Health and Wellbeing

Ruth A. Parslow, Anthony F. Jorm

Objective: We examined data from the 1997 National Survey of Mental Health and Wellbeing to identify factors associated with consumers of mental health help reporting that their needs were unmet or only partially met. Predictor factors included sociodemographic variables, psychological morbidity measures and type of health practitioner seen.
Method: Five types of mental health help were considered: information, medication, psychological therapy, social interventions and skills training. A respondent's unmet need for each type of mental health help was given one of three values: 0: no unmet need reported; 1: some but not enough help of this type provided; and 2: no help of this type provided although it was needed. Multiple ordered logistic regressions were undertaken to identify predictor variables associated with reporting unmet need for each type of help.
Results: Few sociodemographic factors were found to be associated with consumers reporting unmet need for mental health help. Those with less education were more likely to report unmet need for medication. Being male, living alone and being unemployed were associated with unmet need for skills training. Having seen a general practitioner for mental health reasons was found to be associated with reporting unmet need for both information and social interventions. Self-identifying, or being diagnosed, as having an anxiety disorder was associated with reporting unmet need for four of the five types of help.
Conclusions: In this exploratory analysis, we examined factors associated with consumers of mental health help reporting that their needs were unmet or partially met. We found that the needs of those with anxiety problems were not generally well met. Our findings also indicate there is a need to continue to improve collaboration between the medical and community services sectors.
Key words: Australia, general practitioners, intersectoral collaboration, mental health services, unmet need.

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Consumer contributions in influencing the establishment and provision of health services have been increasingly recognised as important over the past 30 years. Much of the work exploring consumers' views on their health care has focused on their overall satisfaction with the services they obtained. However, while this global measure allows some assessment of overall health services, it gives minimal information to policy makers, service providers and administrators on how such services can be improved [1,2]. Consumers who report satisfaction with mental health services do not necessarily report receiving enough of particular types of help [1,3,4]. Examination of consumers' reports of met

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and unmet need using a framework that covers different aspects of the mental health service, for example, the provision of information, medication, psychological therapy, social interventions and skills training, will provide policy makers with better information on how and where such types of help should be further developed [5]. Numerous factors may contribute to whether consumers report met or unmet need for types of mental health help. In exploring factors related to consumers' reporting unmet needs, we have drawn on the Andersen and Newman [6] framework, which distinguishes three classes of factors: need, enabling and predisposing factors. This framework has previously proved useful for identifying predictor variables related to the use of health services for mental health problems [7]. We have extended this framework to include additional factors that may relate to consumers' reports of unmet needs. This broader group of factors can be considered in two categories relating to the consumers of the services and to the health system.

Consumer-related factors

Consumer related variables can be considered in three categories: (i) measures of psychological distress and mental disorder that affect the consumer's need for such services; (ii) factors relating to the consumer's ability to obtain appropriate services to address those needs; and (iii) factors that may affect the consumer's self-perceived needs for such services or their perspectives concerning whether those needs have been met.

Need factors

Need factors would include clinical diagnosis of mental disorder or the consumer's self-identifying as having a mental disorder. It might be assumed that the greater or more numerous an individual's mental health care needs, the more likely that some of those needs will be reported as unmet.

Enabling factors

This second group of factors tallies with the enabling factors identified by Andersen and Newman [6]. This group would include factors affecting the individual's awareness and knowledge of mental health problems and possible treatments, and also factors affecting their ability to present this problem in the clinical setting: for example, education, previous use of mental health services or experience of others within their social network using such services [8–10]. It would also cover factors that may affect the accessibility and affordability of such care: level of education, whether usual language was English, geographical location and income measures, such as whether unemployed.

Self-perception of need factors

There is a third group of factors that should also be considered when examining consumers' reports on whether or not their health care needs have been met. In answering questions on whether they received sufficient health services, consumers will be making their own subjective assessment of whether the help provided met their self-perceived mental health needs. Various factors that may not be related to the adequacy or efficacy of such care may nonetheless contribute to a consumer's reporting unmet need for mental health services. Some of these factors would align with the predisposing factors identified by Andersen and Newman [6] as predictors of higher levels of utilisation. These would include sociodemographic variables such as age and sex that would not, by themselves, be expected to affect need for mental health help. Individuals with particular health or personal problems may also seek types of help not usually offered by the practitioner, or considered by the practitioner to be inappropriate; for example, those seeking complementary therapies for a mental disorder. There is also a dispositional factor that may affect whether the individual reports mental health care needs as being met. Respondents who bring a 'plaintive set' to their life experiences may also report that their mental health needs were not met [11].

Health practitioner factors

A range of variables relating to the structure of the health system and health care providers may affect the extent to which individuals report their mental health care needs as being adequately met. Health practitioners from whom help is sought need to be able to recognise mental health problems, to understand the presenting problem of a particular patient and to offer appropriate types of help. Practitioners who have limited expertise in mental health issues, inexperience in dealing with distressed patients, who are unable to provide particular types of care (for example, not legally able to prescribe medications), or unwilling to provide care that is seen as time-consuming and financially unattractive, will all reduce the likelihood that their patients' mental health needs will be met.

Unmet need for mental health help in Australia

Previously there has been limited scope for exploring unmet need for mental health services in Australia.

However, this deficit has been addressed by information collected through the National Survey of Mental Health and Wellbeing [12]on utilization of health services for mental health problems and on consumer-identified partially met or unmet need for such services. This survey of a representative sample of Australians aged 18 and over living in the community was conducted in 1997 by the Australian Bureau of Statistics (ABS). The range of information collected covered sociodemographic, physical and psychological health, levels of utilization of general and specialist mental health services, and types of help provided as part of that treatment. Five types of help were considered: information about mental illness and its treatment, medication, psychological therapy, social interventions (help to sort out problems concerning housing or money) and skills training (help looking after oneself or one's home or improving one's ability to work). For each of these five types of help, respondents who reported receiving such help were asked whether they considered that they had received enough, while those reporting not obtaining such help were asked if they felt that they had needed it.

Meadows and co-authors have previously described the prevalence of perceived mental health needs from these survey data [13]. They estimated the extent to which such needs were reported as fully met, partially met (that is, received some, but not enough, of that type of help) or unmet (that is, having not received any of a particular type of help, although it was considered to be needed). Meadows *et al.* estimated that 13.8% of the Australian population had a perceived need for mental health care of any type, with 41.3% of this subgroup reporting all of their needs being met. For those meeting criteria for diagnosis of mental disorder, 94.5% identified themselves as needing mental health help with 47.3% of this subgroup reporting that their needs were fully met. Similar analyses of perceived and met need for each of the five types of mental health help were also undertaken and reported [13].

What is covered by 'unmet need'?

Those reporting unmet need for mental health help can be considered as two subgroups: those who have not yet obtained any help from the formal health care system and those who have obtained some mental health help but still consider that their needs remain unmet or only partially met. The analyses reported in this paper focus on this second group: consumers who have already entered the formal health-care system, but report having unmet or partially met needs for different types of mental health help.

Through analyses of the National Survey, we sought to identify the extent to which consumer- and health practitioner-related variables were associated with consumers of health services for mental health problems reporting that their self-assessed needs were met, were only partially met, or were not met at all. Four categories of predictor variables that might be associated with reporting unmet need for mental health help were explored. Three of these related to consumer variables: need for such services, enabling factors and self-perception factors. The fourth category of health system predictor variables related to the type of health practitioner seen.

In order to examine these associations, we undertook exploratory analyses using simultaneous multiple ordered logistic regressions. This method of analysis allowed us to assess the extent to which need, enabling, self-perception of need and health practitioner factors were associated with reporting unmet need while controlling at the same time for other predictor variables.

Method

The National Survey

The National Survey was conducted throughout Australia from May to August 1997 on a voluntary basis. The sample selected for the survey involved residents of private dwellings. Those in special accommodation or dwellings such as hospitals, institutions, nursing homes, hostels and hotels were not included, nor were homeless persons or those from overseas holidaying in Australia, members of non-Australian defence forces and their dependants, and households containing non-Australian diplomatic personnel [12]. Approximately 13 600 dwellings were approached with one person aged 18 years or over in each dwelling randomly chosen to participate in the survey. A total of 10 641 persons completed the survey interview giving a response rate of 78%.

Measures obtained

Sociodemographic details collected from each participant included items covering age, sex, marital status, household structure, languages used, level of education attained and labour force details. Detailed information was collected on the mental health of each individual using the Composite International Diagnostic Interview (CIDI), a computerized version of which (the CIDI-A), including diagnostic algorithms, was developed for this survey by the World Health Organization Training and Reference Centre in Australia. While the reliability and validity of the CIDI have been assessed by a number of studies [14], other writers have expressed concern about the potential for this instrument to provide overestimates of the prevalence of mental disorder in the community [15].

Following completion of the CIDI-A, survey participants were asked to identify the self-reported health problem that they considered troubled them the most. This allowed identification of those participants who self-reported a mental health problem as their main health problem.

In this analysis, participants were classified as having a CIDI-diagnosed affective disorder, anxiety disorder or substance-abuse

disorder if they were given one or more of the relevant ICD-10 codes. These broad categories of mental disorder were selected over more specific diagnoses since many of the latter have low prevalence rates and high comorbidity with other diagnoses in the same category, thereby limiting their usefulness in analyses of community-based surveys. Self-identified mental disorders were similarly classified into categories of depression, anxiety and substance abuse.

Respondents were then asked about their levels of health service utilization, the types of health practitioners from whom they had obtained mental health care in the previous 12 months and the types of help they had received for any mental health problems during that period. For each type of help (information, medication, psychological therapy, social interventions and skills training), those receiving such help were asked if they had received enough, while the remainder of those who had obtained any mental health help in the previous year but not this type of help, were asked whether they thought they had needed it.

Statistical methods

Ordered multiple logistic regressions were used in these analyses with each dependent variable taking three possible values relating to the extent to which consumers reported having unmet or partially met needs. For each of the five types of help, those who received enough of that type of help were scored zero, those receiving some but not enough were scored one, and those who received none of that type of help, but thought they had needed it were scored two. However, the numerical values of 0, 1 and 2 have no significance apart from determining the ordering of the three outcomes. Predictor variables included enabling and self-perception of need measures, types of health practitioner seen, CIDI-diagnosed mental disorders and self-identified mental health problems (see Table 1). Health practitioners were considered in four separate categories: general practitioners, psychiatrists, psychologists and other health professionals, with the last category covering drug and alcohol counsellors, other counsellors, nurses, mental health teams, chemists and ambulance officers.

By applying simultaneous multiple ordered logistic regressions in our analyses we could identify any need, enabling, self-perception of need, and health practitioner factors that were associated with consumers reporting unmet or partially met need for mental health help.

Finally, each participant's survey information included weighting factors provided by the ABS. These factors gave survey estimates conforming to independent estimation of the Australian population during the time of the survey and allowed reliable, population-level estimates of variables to be calculated. Analysis was undertaken using the statistical package STATA Release 6.0 [16].

Results

The number of respondents who reported obtaining any mental health help was 1329. This subgroup of consumers represented 12.5% of the weighted population. As shown in Table 2, of all five types of mental health help, need for psychological therapy was most frequently

Table 1. Descriptions of predictor variables

Predictor variable	Description
Self-perceptions of need factors	
Age	Mid-point of age group
Sex	Male = 0; Female = 1
Living alone	Whether only person in household
Separated	Whether separated
Divorced	Whether divorced
Enabling factors	
Rural	Whether living in rural region
Remote	Whether living in remote region
Education	Whether studying for, or completed, tertiary qualification
Usual language	Whether usual language spoken is not English
On government pension	Whether primarily on government pension, allowance or benefit
Unemployed	Whether unemployed
Health practitioner factors	
GP visit	Whether made any mental health visits to GP in past 12 months
Psychiatrist visit	Whether made any mental health visits to psychiatrist in past 12 months
Psychologist visit	Whether made any mental health visits to psychologist in past 12 months
Other health practitioner visit	Whether made any mental health visits to other health practitioner in past 12 months
Measures of need	
Affective disorder	Whether or not diagnosed with CIDI affective disorder
Anxiety disorder	Whether or not diagnosed with CIDI anxiety disorder
Substance-abuse disorder	Whether or not diagnosed with CIDI substance-abuse disorder
Self-identified depression	Whether or not main self-identified health problem was depressive symptoms
Self-identified anxiety	Whether or not main self-identified health problem was anxiety symptoms
Self-identified substance abuse	Whether or not main self-identified health problem was alcohol or drug dependence

CIDI, Composite International Diagnostic Interview.

reported as not being fully met. Of those who received some psychological therapy, 11.4% reported that their needs were only partially met. In addition, 12.5% of consumers who received some mental health help but not psychological therapy considered that they had needed this type of assistance. Conversely, 92% of consumers reported their needs for medication as being fully met. We then undertook simultaneous multiple ordered logistic regressions to identify predictor variables related to reporting partially met or unmet need for each of the five types of mental health help. These results are given in Table 3 and 4.

Table 2. Percentages of those receiving any mental health help who reported that their need for each type of help was met, partially met or unmet

Type of help received	Percentages (95% CI) of those receiving any mental health help whose need for this type of help was		
	met	partially met	unmet
Information about mental illness, treatments, available services	83.2 (81.2–85.2)	5.5 (4.3–6.7)	11.4 (9.7–13.1)
Medication	92.1 (90.6–93.6)	5.3 (4.1–6.5)	2.6 (1.7–3.5)
Psychological therapy (psychotherapy, cognitive–behavioural therapy or counselling)	76.0 (73.7–78.3)	11.4 (9.6–13.1)	12.5 (10.7–14.3)
Social interventions (help with housing or money problems)	90.8 (89.2–92.4)	0.9 (0.4–1.4)	8.3 (6.8–9.8)
Skills training (help to improve ability to look after self or home or to work or to use time in other ways)	89.9 (88.3–91.5)	2.6 (1.7–3.5)	7.6 (6.2–9.0)

Table 3. Odds ratios for associations of reporting unmet need for mental health help with measures of need, self-perception of need, enabling and health practitioner factors

Predictor variable	Odds ratios (95% CI) from multiple ordered logistic regressions for reporting unmet need for:		
	Mental health information	Medication	Psychological therapy
Self-perception of need factors			
Age group	0.98 (0.95–1.00)	0.99 (0.97–1.01)	0.98 (0.96–1.00)
Sex (female)	1.00 (0.64–1.57)	0.68 (0.34–1.38)	1.22 (0.86–1.72)
Living alone	1.17 (0.68–1.99)	0.97 (0.49–1.92)	0.90 (0.62–1.31)
Separated	0.85 (0.40–1.83)	1.26 (0.53–2.99)	0.92 (0.51–1.67)
Divorced	0.58 (0.33–1.03)	0.60 (0.25–1.46)	1.71 (0.88–3.34)
Enabling factors			
Rural	1.13 (0.60–2.12)	0.89 (0.23–3.48)	0.47 (0.28–0.79)*
Remote	1.76 (0.67–4.59)	0.76 (0.35–1.63)	1.19 (0.50–2.81)
Education	0.67 (0.40–1.15)	0.45 (0.28–0.73)*	0.79 (0.55–1.13)
Usual language not English	2.90 (0.99–8.48)	1.99 (0.56–6.98)	1.17 (0.50–2.75)
On government pension	1.10 (0.77–1.58)	0.82 (0.42–1.61)	1.03 (0.69–1.54)
Unemployed	1.26 (0.39–4.13)	0.84 (0.31–2.28)	0.89 (0.58–1.37)
Health practitioner factors			
GP visit	1.68 (1.05–2.67)*	1.47 (0.62–3.54)	1.17 (0.66–2.08)
Psychiatrist visit	1.20 (0.77–1.86)	0.64 (0.22–1.83)	0.68 (0.42–1.10)
Psychologist visit	1.36 (0.80–2.30)	0.76 (0.23–2.50)	0.75 (0.41–1.36)
Other health practitioner visit	0.86 (0.55–1.36)	0.76 (0.42–1.38)	0.91 (0.63–1.32)
Measures of need			
Affective disorder	1.32 (0.74–2.33)	1.37 (0.56–3.38)	1.05 (0.76–1.45)
Anxiety disorder	1.27 (0.74–2.17)	2.18 (1.28–3.72)*	1.45 (0.68–3.10)
Substance-abuse disorder	1.52 (0.97–2.38)	1.47 (0.75–2.92)	1.58 (0.93–2.70)
Self-identified depression	1.60 (0.73–3.49)	1.21 (0.52–2.83)	2.02 (1.29–3.16)*
Self-identified anxiety	2.52 (1.42–4.49)*	1.11 (0.52–2.37)	1.55 (1.03–2.32)*
Self-identified substance abuse	2.16 (0.27–17.46)	1.32 (0.07–23.14)	0.92 (0.13–6.47)

*$p < 0.05$.

Unmet need for information

As seen in Table 3, simultaneous multiple logistic regression identified no enabling or self-perception of need variables, but one health practitioner variable, to be associated with this unmet need: having seen a general practitioner. Of the measures of mental disorder and self-identified mental health problems included in the analysis, we found those who self-identified as having anxiety were also more likely to report that their need for this type of help was not fully met.

Unmet need for medication

Only one enabling variable was found to be associated with reporting unmet need for medication: not having or undertaking higher education. No self-perception of need or health system factors were so associated. Those meeting criteria for a CIDI diagnosis of anxiety disorder also reported unmet need for this type of help.

Unmet need for psychological therapy

As seen in Table 3, multiple ordered logistic regressions indicated that only one enabling variable was significantly associated with unmet need for psychological therapy: not living in a rural location. Two need-related factors were found to be associated with reporting unmet need for psychological therapy: self-identifying as having depression and self-identifying as having anxiety.

Obtaining social interventions

Four predictor variables covering enabling, self-perception of need and health practitioner factors were found to be significantly associated with reporting unmet need for social interventions: being divorced, receiving a government pension, seeing a general practitioner or other health practitioner. No measures of need were found to be so associated. These results are given in Table 4.

Unmet need for skills training

Two predictor variables measuring self-perception of need were found to be associated with reporting unmet need for skills training in the multiple logistic regression: being male and living alone. No enabling or health practitioner factors were significantly associated with this measure of unmet need. Two measures of mental disorder were also associated with reporting unmet need for skills interventions: having CIDI diagnosis of affective disorder or self-identifying as having anxiety.

Table 4. Odds ratios for associations of reporting unmet need for mental health help with measures of need, self-perception of need, enabling and health practitioner factors

Predictor variable	Odds ratios (95% CI) from multiple ordered logistic regressions for reporting unmet need for:	
	Social interventions	Skills training
Self-perception of need factors		
Age group	0.98 (0.96–1.01)	0.99 (0.96–1.01)
Sex (female)	0.62 (0.34–1.13)	0.34 (0.18–0.64)*
Living alone	1.12 (0.52–2.40)	1.65 (1.08–2.52)*
Separated	1.10 (0.43–2.85)	0.73 (0.25–2.13)
Divorced	2.62 (1.47–4.65)*	0.85 (0.34–2.11)
Enabling factors		
Rural	0.88 (0.49–1.60)	0.91 (0.44–1.87)
Remote	0.78 (0.29–2.06)	0.76 (0.38–1.52)
Education	0.95 (0.60–1.51)	0.85 (0.56–1.30)
Usual language not English	1.16 (0.36–3.75)	1.23 (0.22–6.84)
On government pension	2.17 (1.14–4.11)*	1.49 (0.95–2.33)
Unemployed	1.60 (0.49–5.26)	1.24 (0.48–3.20)
Health practitioner factors		
GP visit	2.03 (1.10–3.74)*	1.18 (0.59–2.38)
Psychiatrist visit	0.75 (0.43–1.30)	0.82 (0.32–2.12)
Psychologist visit	1.12 (0.54–2.36)	1.59 (0.84–2.99)
Other health practitioner visit	1.91 (1.07–3.42)*	1.31 (0.46–3.73)
Measures of need		
Affective disorder	1.18 (0.62–2.26)	1.77 (1.13–2.78)*
Anxiety disorder	1.81 (0.82–3.97)	1.31 (0.63–2.71)
Substance-abuse disorder	1.01 (0.56–1.81)	0.79 (0.35–1.77)
Self-identified depression	1.42 (0.80–2.51)	1.60 (0.70–3.70)
Self-identified anxiety	1.52 (0.89–2.59)	1.95 (1.17–3.24)*
Self-identified substance abuse	2.75 (0.63–12.08)	1.69 (0.62–4.59)

*$p < 0.05$.

Discussion

In this analysis we examined associations between variables measuring enabling, self-perception of need, health practitioner and need factors, and consumers reporting that their needs for mental health help were unmet or only partially met. We considered five different types of mental health help: obtaining information or medication; receiving psychological therapy; obtaining social interventions relating to house and money problems; and receiving skills training to assist in looking after oneself or one's home, or in improving one's ability to work or use time in other ways. Our dependent variables measuring unmet need for each of the five types of help took three possible scores. These scores related to reporting having needs met for that type of help; obtaining some but not enough of that help; and receiving no such help but considering that it was needed. Using these three-value dependent variables, we carried out multiple ordered logistic regressions. These analyses allowed us to explore whether predictor variables associated with reporting unmet need for mental health help were confined to those measuring the need for such help, or whether such associations were also found for variables measuring enabling, self-perception of need and health practitioner factors.

Enabling factors associated with unmet need

Enabling factors associated with unmet need could affect the individual's ability to recognize problems, their knowledge of the appropriate forms of help for such problems as well as difficulties in accessing such help. Our results suggest that those with lower levels of education had expectations of receiving medication for their mental health problems that were not addressed. It cannot be determined from this analysis whether such respondents perceived that they needed more medication to treat mental health problems that cannot be effectively treated with medication or to reduce other health problems (for example, problems sleeping, relief from somatic symptoms).

We also found unmet need for social interventions, concerning housing and money problems for those whose main income was some form of government pension. While such benefits usually entitle recipients to subsidized medical care, other health and living expenses may present particular financial hardship for this group.

Finally, we found living in a rural location to be significantly negatively associated with reporting unmet need for psychological therapy. This finding would also indicate that unmet or partially met need for such help is more likely to be reported by those living in more populated areas. Further exploration of this issue is required in order to identify specific locational factors that are associated with reporting this unmet need.

Factors affecting self-perceptions of need associated with reporting unmet need

There were surprisingly few significant findings to indicate that factors affecting self-perception of need were associated with reporting unmet need. Men were more likely to report an unmet need for skills training; that is, caring for self, home or improving one's ability to work. We also found those living alone to report unmet need for this type of help. Both men and women living alone could well need help caring for themselves or their homes, and it could also be expected that men in these circumstances would have a greater need for help, given their customary role in our society. Given the ongoing reconstruction of the Australian manufacturing and farming sector [17], it could be expected that men who have become unemployed and potentially unemployable, would have a greater need for help to improve their ability to work. While there are likely to be other community resources available to help deal with both types of problems, these are unlikely to be directly available from a health practitioner.

We also found that divorced respondents were more likely to report unmet need for social interventions. This finding is not unexpected, given that couples who are divorcing often face particular financial difficulties given that they are likely to require additional accommodation and transport. Again, these are services that are more likely to be available through the non-medical, community government services.

Type of practitioner seen associated with unmet need

Those seeing general practitioners and other health practitioners reported receiving fewer social interventions than they felt they needed. This type of help covered advice on housing and money matters and is not especially the responsibility of general practitioners or health practitioners in general. This finding may indicate that people have difficulty obtaining such advice from other community based, non-medical community information and referral services, possibly because they are less aware of these non-medical community resources, and unrealistically see the general practitioner or other health adviser as an overarching source of advice on general problems.

Those seeing general practitioners for mental health reasons were also more likely to report unmet need for information on mental health problems and their treatment, although visiting such practitioners has been previously found to be positively related to receiving this type of help [18]. This would suggest that general practitioners and those using their services have quite different perspectives on the appropriate forms of help to be delivered. Our analyses, however, did not explore unmet need associated with obtaining different combinations of service utilization (e.g. seeing a general practitioner and a psychiatrist). Hence, we cannot identify here the level of unmet need that could be attributed specifically to having visited a general practitioner.

Measures of need associated with reporting unmet need for help

There is not necessarily a simple relationship between having a clinically diagnosed or self-identified mental health problem and considering that one has obtained enough help. Those with more severe conditions and hence greater need for help may be more likely to reach a threshold severity level which allows them more direct access to a range of services not offered to those with subthreshold, but still treatable, symptoms [19]. The type of mental health problem occurring (for example, whether anxiety or substance-abuse disorders) may also affect whether the individual seeks or avoids particular types of help and also whether efficacious help of that type is available for their condition. These factors may have contributed to our findings that those with self-identified anxiety report unmet need for information about their condition, for psychological therapy and for skills training, while those with clinical anxiety considered they needed more medication. More detailed exploration of these findings is needed to identify the specific issues and problems experienced by those with clinical and self-identified anxiety when they seek mental health help.

We found self-identifying as having depression to be associated with reporting unmet need for psychological therapy. This group of respondents may well find that counselling and other forms of psychological therapy, being more time-consuming, are less easily available from the general practitioner, more difficult to arrange and, if obtained from a psychologist, expensive as well.

Finally, we found having a clinical diagnosis of affective disorder to be associated with reporting unmet need for skills training. Possible reasons for this particular finding are not immediately evident and further analysis would need to be undertaken if this result is to be explained.

Limitations of the study

Our study has considered unmet and partially met need reported by those who had already obtained some form of help from the formal health care system. In this paper, we have not explored predictor variables associated with reporting unmet need by those who have not yet received any health services.

As previously noted, the analyses reported in this paper are largely exploratory. We sought to identify enabling, self-perception of need, health practitioner and need factors that might be associated with Australians reporting unmet need for mental health help. However, our analyses did not consider more specific hypotheses that could identify individual predictor variables that might be so associated. As such, our findings should be seen as preliminary to further work on this important topic of unmet need for mental health care.

Finally, we recognize that some of our findings may be the consequence of our exploring this large sample, which may have resulted in relatively small effects achieving statistical significance.

Conclusion

In this study we explored predictor variables measuring enabling, self-perception of need, health practitioner and need factors that were associated with consumers reporting unmet or partially met need for particular types of mental health help. An important finding from these analyses is that those who self-identified, or were clinically diagnosed, as having anxiety reported partially met or unmet need for four of the five types of help: information, medication, psychological therapy and skills training. Some of our findings also raise concerns about potential lack of collaboration between health practitioners and other community resources which might be able to provide social interventions and skills training to those needing such help. This lack of collaboration between service sectors has been recognized previously as a problem for those working in general practice [20].

Overall, our results highlight the need for further analyses to be undertaken if we are to have a clearer understanding of why particular subgroups of Australians, who have already accessed formal health services, continue to report unmet or only partially met need for mental health help.

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