SELECT COMMITTEE ON SUBSTANCE ABUSE IN THE COMMUNITY

SUBMISSION NUMBER 0015G

DATE.. 21 June 2002

TABLED: 21 June 2002

RECEIVED FROM..

Commonwealth Department of Health and Ageing.
National Drug Strategy and National Mental Health Strategy
National Comorbidity Project.

Edited by Marie Teesson and Lucy Burns, National
Drug and Research Centre

National Drug Strategy
and
National Mental Health Strategy

National Comorbidity Project

Edited by Maree Teesson and Lucy Burns
National Drug and Alcohol Research Centre

Commonwealth Department of Health and Aged Care

ISBN 0642735026

Publication approval number: 2807

Additional copies can be obtained by:

Mail: Mental Health and Special Programs Branch
MDP 37
Commonwealth Department of Health and Aged Care GPO Box 9848
CANBERRA ACT 2601

Fax: 1800 634 400
Phone: 1800 066 247
Website: www.mentalhealth.gov.au

Publications Production Unit (Public Affairs, Parliamentary and Access Branch)
Commonwealth Department of Health and Aged Care
Canberra

Acknowledgements

This project would not have been possible without the support of many individuals and organisations. Numerous individuals and organisations wrote to the Commonwealth Department of Health and Aged Care to raise the issue, others spoke about the issue in public and private forums. Carers, consumers, academics, service providers and administrators all made concerted attempts to bring the issue forward.

The National Comorbidity Project also owes its existence to the foresight of Ms Cheryl Wilson, Director of the Illicit Drug Section, Drug Strategy and Population Health Social Marketing Branch and Ms Leonie Young, former Director of Prevention and Promotion Section, Mental Health and Special Programs Branch. They were willing to bring their different perspectives on the issue to the same table.

This report is funded by a grant to the National Drug and Alcohol Research Centre from the Commonwealth Department of Health and Aged Care.

Authors of written contributions

In order that the National Comorbidity Workshop be based on the best available evidence a series of background papers was commissioned. The authors are recognised experts in their respective areas and come from the mental health and addictions fields: they are listed below in order of appearance in this report.

Dr Maree Teesson	Senior Lecturer, National Drug and Alcohol Research Centre, University of New South Wales
Professor Wayne Hall	National Drug and Alcohol Research Centre, University of New South Wales
Dr Michael Lynskey	Lecturer, National Drug and Alcohol Research Centre, University of New South Wales
Professor Gavin Andrews	Professor of Psychiatry, World Health Organisation Collaborating Centre for Mental Health and Substance Use Disorders
Ms Cathy Issakidis	World Health Organization Collaborating Centre for Mental Health and Substance Use Disorders.
Mr Tim Slade	World Health Organization Collaborating Centre for Mental Health and Substance Use Disorders,
Ms Cin Mayii	ACT Community Advisory Group
Ms Meta Ransome	Schizophrenia Fellowship of South Qld
Ms Elizabeth Morgan	Chair, Network of Australian Consumer Advisory Groups
Professor Ian Webster	Professor of Public Health, University of New South Wales, Member, Australian National Council on Drugs
Dr Rod MacQueen	General Practitioner
Professor Mark R Dadds	Professor of Psychology, School of Applied Psychology, Griffith University
Associate Professor David Kavanagh	Department of Psychiatry, University of Queensland

Mr Scott Wilson	Aboriginal Drug and Alcohol Council, South Australia
Mr Abd Malak	Director, AustralianTranscultural Mental Health Service

Contents

Framework for future directions

Appendices

Executive summary

Comorbidity means the co-occurrence of one or more diseases or disorders in an individual. It is sometimes narrowly defined as the co-occurrence of schizophrenia and substance use disorders.

Comorbidity of mental disorders and substance use disorders is widespread and often associated with poor treatment outcome, severe illness course and high service use. This presents a significant challenge with respect to the most appropriate identification, prevention and management strategies.

The National Comorbidity Project aims to highlight the importance of this type of comorbidity and to identify appropriate strategies and policy responses. The Project is funded jointly by the Drug Strategy and Population Health Social Marketing Branch and Mental Health and Special Programs Branch of the Commonwealth Department of Health and Aged Care.

This innovative project brings together, for the first time, two government strategies - the National Drug Strategy and the National Mental Health Strategy. The National Drug and Alcohol Research Centre coordinated the Project.

The first stage of the Project was to convene a national workshop on comorbidity. The workshop had two broad aims. They were to:

- provide an opportunity for information sharing among key stakeholders in the area of comorbidity; and

- identify clear actions to enable progression of issues and/or inform policy decisions.

Recommendations and priorities from the workshop will inform a strategic approach for future action in the area of comorbidity under the Second National Mental Health Plan and the National Drug Strategic Framework 1998-99 to 2002-03.

Dr Norman Swan facilitated the workshop over two days (6-7 March 2000) at Rydges Hotel, Canberra. Workshop participants included policy makers, researchers, service providers (public and private), consumers and carers across the mental health and drug and alcohol sectors. The sectors of aged care, Aboriginal and Torres Strait Islander health and the criminal justice system were also represented.

Aboriginal and Torres Strait Islander Peoples were identified as a high priority population group. Specific comorbidity goals and strategies to address the needs and issues of Aboriginal and Torres Strait Islander Peoples will be developed in the next stage of the National Comorbidity Project.

Areas for future action

The workshop identified six areas across the health continuum as a focus for future directions on comorbidity. They are:

- prevention and early intervention;
- carers and consumers;
- research and evaluation;
- education and training;
- integration and/or collaboration between services; and
- whole-of-govemment.

Prevention and early intervention covered both universal and targeted prevention strategies and early intervention strategies. The selection of prevention as an area of focus reflected the strong evidence presented at the workshop for the success of prevention interventions in mental health both nationally and internationally (see Dadds, page 43).

The personal experience of carers and consumers in relation to comorbidity was presented with clarity to the workshop. The focus on carers and consumers as a broad area reflected strong presentation to the workshop by carers and consumers regarding the impact on comorbidity (see Mayii, page 31 and Ransome, page 33). The lack of consumer involvement in service planning and evaluation was a strong theme and a focus of action identifying this area.

Research on the epidemiology (Andrews et al., page 19), causes (Hall et al., page 11) and treatment of comorbidity (Kavanagh, page 60) was presented to the workshop. The evidence about research into causes and treatment demonstrated that, while there was promising evidence in some areas there was a clear lack of evidence in others. Of particular concern was the lack of treatment research in areas other than psychoses. In order to base practice on evidence the workshop participants felt this gap must be addressed. The area of research and evaluation reflected this need.

Presentations in the area of prevention (Dadds, page 43), treatment (Kavanagh, page 60) and general practice (MacQueen, page 39) highlighted the availability of effective interventions in mental health and substance use treatment. However, they also emphasised the lack of training and specialist education available. In following the evidence based practice model of this workshop, the area of training and education reflects the need to address specialist training in both mental health and substance use treatment.

Services and limitations of the present system were a clear issue identified by the workshop in relation to comorbidity. Presentations on services (Webster, page 37), general practice (MacQueen, page 3 9), comorbidity and Indigenous Australians (Wilson page 7 1) and comorbidity and cultural diversity (Malak, page 73) provided clear evidence of failures of the service system. While it was recognised that Australia has developed excellent treatment service in both mental health and substance use disorders, the lack of communication between the two systems was a significant barrier to providing effective care to those individuals with comorbid disorders.

The National Survey of Mental Health and Wellbeing (see Andrews et al., Page 19) provides a clear picture of the scope of comorbidity in the population. It demonstrates that comorbidity is common and that current resource allocation in mental health is insufficient. The survey also demonstrates the need for a whole-of-government approach as having one disorder is not uncommon and having two is not much less uncommon. Recognition of the number of different government departments who potentially address comorbidity and the data from the National Survey led workshop participants to identify 'whole-of-govemment' as a broad area for future action.

Recommendations

Workshop participants made a series of recommendations about each broad area for action. These are summarised below.

Prevention and early intervention

Program of prevention research

That a program of prevention research be established to provide a basis for preventing comorbidity that will ensure sustainability of initiatives. Further, in order to build the broad scientific basis of prevention, an Institute of Prevention Research be established.

A trial of early intervention

That a trial of early intervention be conducted. A priority for research was identified as a large scale randomised controlled trial of the effects of early intervention for anxiety and depression on development of substance use disorders through adolescence.

Carers and consumers

Increase awareness of availability of services

That initiatives be developed which increase community awareness of the availability of services for individuals with comorbid mental health and substance use problems.

Care plan policy

That a care plan policy on consumer and carer involvement in service planning be developed to ensure they are included in all service planning and evaluation. In developing this care plan it was further suggested that a Commonwealth policy be written outlining the requirements for consumer and carer involvement in service planning and feedback. To strengthen this initiative it was further recommended that consumer and carer issues be a focus of the Australian National Council on Drugs, the Mental Health Council of Australia, the Alcohol and Drug Council of Australia and the Australian Health Ministers Advisory Council.

Research and evaluation

Research and evaluation into comorbidity be strengthened, promoted and advanced

That promotion of comorbidity research involve development of a conference on comorbidity and inclusion of comorbidity symposia at relevant conferences. Further, a bulletin board and website be funded as a means of disseminating information on comorbidity.

Monograph on comorbidity

That a monograph in the area of comorbidity be funded. The monograph would contain a review of current knowledge in the area of comorbidity.

A trial of treatment for comorbid disorders

Funding for at least one methodologically sound study in the area of comorbidity in an area other than psychosis be provided.

National minimum data set

That reliable and valid information be collected on the extent and nature of comorbidity in the

treatment population. The national minimum data sets in mental health and drug and alcohol fields were highlighted as a means of achieving this recommendation. However links need to be developed between the currently separate mental health and drug and alcohol national minimum data sets.

Education and training

Develop a national working group on training in comorbidity

That a National Working group on training in comorbidity be established to oversee an expansion and improvement in training. This group should be involved in developing core competencies for services to individuals with comorbid illnesses and establishing a 24-hour telephone advisory and support service.

National Clearing House

That educational resources be audited and disseminated through a National Clearing House. Further, additional resources be developed and disseminated as required. This recommendation consistent with that made by the research and evaluation group concerning an electronic bulletin board, a website and a monograph.

Integration or collaboration between services

Access and communication

That treatment and support services be more client focussed and more readily accessible. That common assessments, points of entry and a single patient **file** be developed to facilitate this process across mental health and drug and alcohol treatment services. This recommendation is consistent with that made by carers and consumers regarding a care plan policy and that of the

research and evaluation group regarding links between the minimum data sets in the mental health and drug and alcohol sectors.

Partnerships between general practitioners and specialists

That funding be provided to promote partnerships between general practitioners and specialist services to ensure an integrated approach to comorbidity.

Position paper

That these issues be developed in a position paper on comorbidity to be submitted to the Royal Australian College of General Practitioners.

Whole-of-government

Establish effective inter-sectoral partnerships

Comorbidity was recognised as a multifactorial issue including housing, income, welfare, health, criminal justice, education and training. It was therefore recommended that initiatives undertaken in comorbidity involve the whole-of-government. Establishment of effective inter-sectoral partnerships with a strong emphasis on consumers' and carers' equal participation was also recommended. An approach that recognises the particular needs of priority groups, such as Indigenous Australians and individuals from culturally and linguistically diverse backgrounds, is needed.

Establish funding priorities based on evidence

The evidence presented at the workshop showed that funding for services is not currently based on the best available evidence. Funding for mental health and drug and alcohol services should be based on the burden of disorders as well as the evidence for effective interventions. It was also recommended that funding models be developed to ensure provision of both prevention and treatment services.

Introduction

Comorbidity of mental disorders and substance use disorders is widespread and often associated with poor treatment outcome, severe illness course, and high service use. This presents a significant challenge with respect to the most appropriate identification, prevention and management strategies.

The National Comorbidity Project is a national project aimed at addressing comorbidity. Cornorbidity in mental health and substance use disorders is common. National Strategies for both mental health and drug and alcohol in Australia address the issue of comorbidity. Yet, comorbidity has been largely ignored, until recently, in both research and policy. Although this is changing there is no comprehensive and systematic review of the area. Reviews focus on particular comorbidities and a narrow treatment focus, rather than on a public health perspective. Few, if any, governments take a collaborative approach. This project proposes to address this gap.

The National Comorbidity project focuses on three important questions:

a) **What is comorbidity?** Which are the most common and most disabling comorbidities from both individual and public health perspectives using the epidemiological evidence?

b) **How can we prevent and/or treat comorbidity?** What is the research evidence on prevention and treatment of the most common and most disabling comorbidities?

c) **What are the implications of comorbidity for intervention?**

- How do we improve our response to comorbidity?

- What are the current issues in Australia with regard to comorbidity?
- What is current good practice in treatment and service system models?
- What are possible policy directions under the National Mental Health Strategy and the National Drug Strategic Framework?

The first step in addressing the gap was the National Comorbidity Workshop.

Workshop aims

The National Comorbidity Project Workshop provided an opportunity, for a wide range of stakeholders, to develop a joint agreement on the most appropriate policy approach to comorbidity. Recommendations and priorities from the workshop will inform a strategic approach for future action on comorbidity under the Second National Mental Health Plan and the National Drug Strategic Framework 1998-99 to 2002-03.

The workshop's broad aims were to:

- provide an opportunity for information sharing among key players; and
- identify clear actions to enable progression of issues and/or inform policy decisions.

The objectives of the workshop were to bring key people together, foster a shared understanding, identify key issues, and develop strategies to inform policy and practice at all levels.

Workshop participants and process

Dr Norman Swan facilitated the workshop which took place at Rydges Hotel, Canberra over two days (6-7 March 2000). Participants included policy makers; researchers; service providers (public and private); consumers and carers across relevant sectors, including mental health and drug and alcohol; and representatives from other sectors, including Aboriginal and Torres Strait Islander health and the criminal justice system. A full list of participants is at Appendix 1 and the workshop program is at Appendix 2.

The Federal Minister for Health, the Hon. Dr Michael Wooldridge, opened the workshop.

To inform the workshop process six discussion papers on comorbidity were commissioned and written by selected experts from the mental health and drug and alcohol fields: these constitute the bulk of this report. Each commissioned expert also gave a brief presentation to the workshop.

Workshop participants then discussed their expectations for the workshop (see Appendix 3), constructed a vision for the future (Appendix 4), identified major themes and strategies which would improve our response to comorbidity and, finally, created a specific plan for future action (see 'Framework for future directions').

Background papers and presentations

The National Comorbidity Project aims to provide an evidence-based response to comorbidity. The background papers and presentations commissioned for the workshop represent the best available national and international evidence. The recommendations and framework for future directions are based on this evidence and are informed by the knowledge and experience of workshop participants,

Consistent with such an evidence-based approach, the opening address by the Federal Minister for Health and Aged Care Dr Michael Wooldridge provides an excellent overview of the importance of the issue, while Maree Teesson's paper provides a context for the National Comorbidity Project, outlining the relevant government strategies and recent national data.

The definitional issues surrounding comorbidity are in no way trivial. In the second paper Hall, Lynskey and Teesson provide a discussion of the definitional and methodological issues in the study of comorbidity. The definitional issues are addressed in this workshop as it is not always clear what the term 'comorbidity' means. The discussion paper outlines the development of psychiatric diagnostic systems; the definition of what is meant by comorbidity; theories on the causes of comorbidity; and an outline of why comorbidity is important.

The third paper, by Andrews, Issakidis and Slade, is built on the strengths of the 1997 Australian National Survey of Mental Health and Wellbeing. The authors provide an analysis of comorbidity from a whole-of-population perspective. Most studies examining substance use disorder and mental disorder comorbidity are in treatment settings. These studies provide valuable clinical information for the best estimates of comorbidity for individuals who are receiving treatment for at least one disorder. However, they overestimate the true level of comorbidity in the population because people with comorbid disorders are more likely to seek treatment simply because they have more disorders. This is called Berkson's bias. Australia is one of only a few countries to have comorbidity data available from a general population sample. This paper provides a brief background on epidemiological studies on comorbidity, an analysis based on the Australian National Survey of Mental Health and Wellbeing including prevalence of comorbidity, an analysis of associated burden and unmet need and comorbidity, and a comparison of Australian findings with comparable international studies.

Comorbidity is argued to have a significant impact on both individuals and service systems. The next five papers (Mayii, Ransome, Morgan, Webster and MacQueen) relate the personal experiences of people; consumers, carers and service providers including general practitioners. The papers reflect a broad scope and include an assessment of the impact of comorbidity using case studies to demonstrate the personal impact of comorbidity.

Dadds provides a critical analysis of prevention as a crucial component in the breadth of interventions considered in the area of comorbidity. A report from the American Institute of Medicine (1994) noted that prevention of mental disorders has a low priority in the health care agendas of most countries and suggests that a greater effort should be placed on prevention in mental health. The authors argue that several factors make this possible. Firstly there has been a substantial growth in the

knowledge about both environmental and genetic risk factors for mental disorders and substance use disorders. Secondly, a number of promising models for early intervention now exist.

One prevention opportunity, unique to mental health, builds on comorbidity. Larce United States epidemiological studies identified more than 80 per cent of all severe current psychiatric disorders occur among the 13 per cent of the population who have a lifetime history of three or more disorders (Kessler et al., 1994). These results suggest that prevention of comorbidity (ie prevention of the first onset of a second disorder) might reduce a proportion of lifetime mental disorders or substance use disorders.

Dadds discusses the potential for prevention interventions in comorbidity in mental health and substance use and outlines the evidence for modifiable risk factors, evidence for prevention interventions, and evidence for the potential utility of prevention interventions focussed on primary prevention of secondary disorders.

The epidemiological data suggests that prevention of comorbidity would reduce a substantial proportion of all lifetime psychiatric disorders and an even greater proportion of ongoing disorders. Yet despite such evidence, comorbidity has been largely ignored in risk factor research. Are interventions aimed at the primary prevention of comorbidity warranted? If so, what are the modifiable risk factors? Is prevention a plausible possibility?

Although some comorbidities would be difficult to prevent, are there others for which successful prevention is a plausible possibility? For example, substance use disorders that occur secondary to primary phobias. There are a number of clinical trials which highlight this comorbidity with phobias almost always preceding substance abuse in age of onset. This comorbidity is often conceptualised in terms of self-medication or at least use of alcohol and drugs to manage fear. Based on this work, interventions might be aimed either at curing the phobia before secondary alcohol and drug use begins or at teaching alternative strategies to manage fear. Such interventions may have the potential to reduce a substantial percent of lifetime substance use disorders and an even greater percent of current disorders. Dadds addresses these important issues.

Comorbidity presents substantial treatment problems because standard interventions are complicated or may even be excluded in individuals with comorbid disorders. Kavanagh examines the evidence for treatment implications of comorbidity, addressing the issues of incidence, assessment, effectiveness of treatment interventions and the influence of comorbidity on treatment outcomes. Kavanagh also discusses the organisation of services and the extent to which current service organisation and funding systems address comorbidity.

Wilson presented the implications of comorbidity from an Indigenous Australian's perspective. While Malak presented on the issues of comorbidity and cultural diversity.

Opening address

1 am delighted, as the Commonwealth Health Minister, to be able to speak to you today on the ground-breaking importance of this workshop for improving the health of our community.

Developing a national response to comorbidity is a major priority for me and I am pleased that this workshop partners the National Drug Strategy and the National Mental Health Strategy.

1 look to you all, as experts in the areas of mental disorders, substance abuse, suicide prevention, associated social issues and the role of government, to identify and develop better responses to people with both a mental illness and a substance use disorder, and those at risk of developing comorbidity.

The provision of high-quality services to people with comorbid disorders is a major challenge for policy makers and service providers alike.

1 believe the need for improved services is increasingly urgent. As you know, drug use and mental health disorders by themselves have serious health and social consequences for the individual affected, their family and friends, and for the community.

The 1998 National Drug Strategy Household Survey estimated that in 1997 over 22 000 deaths and more than a quarter of a million hospital episodes were drug-related. The licit drugs (tobacco and alcohol) accounted for over 96 per cent of the drug-related deaths and hospitalisation.

The National Survey of Mental Health and Wellbeing conducted in 1997, revealed that nearly one in five Australians over 18 will experience some form of mental illness in any 12-month period. To experience these problems together can have a simply devastating impact on individuals, families and carers.

And as experts in your respective fields, you will have come across comorbidity conditions and their impact, on many occasions.

I am greatly encouraged that the National Survey of Mental Health and Wellbeing has, for the first time, provided us with an understanding of the high level of comorbidity in the general population, involving people who may never have accessed specialist services.

Unfortunately, for those who do access health services, they can be viewed as being too difficult - 'the client nobody wants' - and can be bounced between services without receiving appropriate treatment.

The National Survey results also indicated that patterns of comorbidity varied somewhat between men and women: for women, affective and anxiety disorders accounted for three-quarters of comorbidity; while for men, in contrast, two-thirds of comorbidity involved an affective or anxiety disorder in combination with a substance use disorder.

Many of you will be aware of the statistics from the WHO/World Bank Global Burden of Disease project which estimated that depression was the leading cause of disability worldwide in 1990 and would be the second leading cause of loss of health in the world in the year 2020.

Other research is also strongly suggesting that depression may lead to or follow a range of health risk behaviours including tobacco use, illicit drug use and alcohol misuse and dependence.

1 am particularly concerned by the results of the recent Australian Burden of Disease study which found that nine out of the ten leading causes of burden in young males and eight out of ten leading causes in young females were substance use disorders or mental health disorders.

Other important information comes from the National Survey of People Living with Psychotic Illness (1997-98) which found that people currently living with long-term psychotic illness are: ten times more likely to abuse street drugs, four times more likely to abuse alcohol, and almost three times more likely to smoke than the general population.

Quite clearly, this is an issue that crosses existing government, medical and social boundaries in terms of prevention and treatment. The solutions must do the same. 1 encourage all participants to take advantage of the opportunity provided by having a number of fields of expertise, including drug and alcohol, mental health and primary care, consumers and carers, together in this one room.

By putting your collective minds to work on addressing comorbid mental health and substance use in a comprehensive and constructive way, 1 have no doubt we will come away from today with clear ideas about how to take this issue forward.

1 appreciate your efforts and the time you have all given to tackle this important issue and 1 look forward to hearing of your considerations.

Dr Michael Wooldridge
Minister for Health and Aged Care

Background: causes, prevention and treatment of comorbidity

Dr Maree Teesson

Comorbidity in mental health and substance use disorders is widespread and often associated with poor treatment outcome, severe illness course, and high service utilisation (Kessler et al., 1994; Wu et al., 1999). This presents a significant challenge with respect to the most appropriate identification, prevention and management strategies.

The National Comorbidity Project, in addressing the area of comorbidity, builds on two recent Australian initiatives. The first is that both the National Drug Strategy and the National Mental Health Strategy recognise comorbidity as an issue. The second is the availability of national data on comorbidity in mental health and substance use in the Australian general population.

National Drug Strategic Framework and Second National Mental Health Plan

In 1998, the National Drug Strategic Framework 1998-99 to 2002-03 and the *Second National Mental Health Plan* (Commonwealth Department of Health and Aged Care, 1998) were released. Both documents acknowledge the importance of identifying and managing comorbidity. The National Drug Strategic Framework states that mental health and wellbeing can influence drug use and that links need to be established with mental health agencies so the broad range of overlapping issues can be considered. The *Second National Mental Health Plan* identifies comorbidity of mental health and substance use as a high priority and emphasises the importance of partnerships in service reform and delivery. Activity under the Second Plan will focus on a national response to this priority area concentrating on prevention, targeted at the antecedents of these co-occurring disorders, as well as development of improved treatment and management through better collaboration and coordination between mental health and drug and alcohol treatment services.

These two strategic policy documents place Australia in a unique position to contribute to the area of comorbidity. They demonstrate a commitment to a broader and more collaborative approach to the area of comorbidity than any similar documents in either the United Kingdom or the United States. It is the increased capacity from such a collaborative approach that Australia can build upon.

National Survey of Mental Health and Wellbeing

Until recently Australia was reliant on United States studies for epidemiological data on mental health, substance use disorders and comorbidity. In 1997, the Mental Health and Special Programs Branch of the Commonwealth Department of Health and Aged Care funded the Australian Bureau of Statistics to undertake the National Survey of Mental Health and Wellbeing - a survey of the mental health of a representative sample of the Australian adult population (ABS, 1998; Andrews, Hall, Teesson and Henderson, 1999). The survey provides the first national Australian data on the prevalence and patterns of mental disorders among Australian men and women, highlighting the extent of comorbidity in the general population. The Survey was conducted in 1997 on a nationally representative sample of 10 641 Australians.

The Survey was designed to answer three main questions:

- how many Australians have which mental disorders?
- how disabled are they by these disorders? and
- what services have they used for these disorders?

A modified version of the Composite International Diagnostic Interview (CIDI) (WHO, 1996) identified the most common mental disorders (namely, anxiety, affective and substance use disorders) using the two major psychiatric classification systems, DSM-IV and ICD- 1 0. The definitions of anxiety disorder, substance use disorder and depression are in Appendix 5.

The Survey achieved a high response rate. Seventy-eight per cent of eligible adults aged 18 and over completed the Survey interview and very few who agreed to begin the interview withdrew. Results of the Survey were weighted to ensure the estimates were representative of the total adult population.

Results of the Survey show a considerable degree of comorbidity in substance use disorders and other mental health disorders (see Figures 1 and 2; Hall, Teesson et al., 1998, 1999). About one in four persons with an anxiety, affective or substance use disorder also had at least one other mental disorder This meant they had two or more different classes of disorder, such as an anxiety and affective disorder, or an anxiety and a substance use disorder. A small proportion of men (0.8%) and women (0.8%) had all three types of disorder (ie an anxiety, affective and substance use disorder).

FIGURE 1 AND FIGURE 2 NOT SCANNED

Among those individuals with mental disorders, marginally more women than men had at least one other comorbid mental disorder (28 per cent of women as against 24 per cent of men with any of these mental disorders). The patterns of comorbidity differed between men and women. Among women, affective and anxiety disorders most often occurred together, accounting for three-quarters of women who had more than one mental disorder. Among men, comorbid disorders more often

involved an anxiety or an affective disorder in combination with a substance use disorder. These combinations of disorders affected two-thirds of men who had more than one mental disorder.

The National Survey of Mental Health and Wellbeing included a low prevalence study of psychotic disorders. This component is the first national epidemiological study to examine comorbidity in persons with psychotic disorders. A total of 980 individuals with psychosis were interviewed, drawn from a census of 3 800 consumers of mental health services. The 980 individuals screened represented sampling from in-patient services, outpatient services, private general practice, private psychiatric practice and hostels. Schizophrenia and schizoaffective disorder accounted for over 60 per cent of the prevalence of psychotic disorders. Nicotine was the most commonly used drug in this sample with 67 per cent using nicotine in the previous 12 months. Lifetime diagnoses of alcohol use disorders were found in 30 per cent of the sample and cannabis use disorder in 25 per cent. When individuals used cannabis they most often used it in conjunction with alcohol or nicotine, 99 per cent of individuals using cannabis had also used alcohol or nicotine in the previous 12 months (Kavanagh et al., 1999).

The high rates of comorbidity have a number of implications for treatment and management. Mental disorders complicated by alcohol and other drug use disorders, and vice versa, have been recognised as having a poorer prognosis than those without such comorbid disorders. They are also more likely to become chronic and disabling, and result in greater service utilisation (Teesson et al., 2000).

Comorbidity is of particular concern for young adults aged 15-24 years. The recent Australian burden of disease and injury study found that nine out of ten leading causes of burden in young males and eight out of ten leading causes in young females were substance use disorders or mental disorders. Thus, apart from the burden resulting from road traffic accidents (and asthma in females), the disease burden in this group is the result of alcohol dependence, suicide, bipolar affective disorder, heroin dependence, schizophrenia, depression, social phobia, borderline personality disorder, generalised anxiety disorder and eating disorders (Mathers et al., 1999). Comorbidity of these disorders is high and likely to result in significant disease burden.

Comorbidity in mental health and substance use disorders is highly prevalent. Both mental health and drug and alcohol national strategies in Australia address the issue of comorbidity. Yet, comorbidity has been largely ignored, until recently, in both research and policy. Although this is changing there is no comprehensive and systematic review of the area. Reviews focus on particular comorbidities and a narrow treatment focus, rather than a public health perspective. Few, if any governments take a collaborative approach. The National Comorbidity Project proposes to address this gap.

References

Australian Bureau of Statistics, 1998, *National Survey of Mental Health and Wellbeing ofadults: Users'Guide*, Australian Bureau of Statistics, Canberra.

Andrews, G., Hall, W., Teesson, M. and Henderson, S 1999, *The mental health of Australians*, Department of Health and Aged Care, Canberra.

Commonwealth Department of Health and Aged Care, 1998, *Second National Mental Health* Plan, Commonwealth Department of Health and Aged Care, Canberra.

Hall, W. 1996, 'What have population surveys revealed about substance use disorders and their comorbidity with other mental disorders?', *Drug and alcohol Review, 15:157-70.*

Hall, W., Teesson, M., Lynskey, M. and Degenhardt, L. 1998, *The prevalence in the past year of substance use and ICD-10 substance use disorders in Australian adults: findings from the National Survey of Mental Health and Wellbeing,* Technical Report No. 63, National Drug and Alcohol Research Centre, University of New South Wales, Sydney.

Hall, W., Teesson, M., Lynskey, M. and Degenhardt, L. 1999, 'The 12-month prevalence of substance use and ICD- 1 0 substance use disorders in Australian adults: findings from the National Survey of Mental Health and Wellbeing', *Addiction, 94:1541-50.*

Henderson, S., Andrews, G. and Hall, W. (2000), 'Australia's Mental Health: An overview of the general population survey', *Australian and New Zealand Journal of Psychiatry.*

Kavanagh, D., Jenner, L. and MeGrath, J. (on behalf of the study group) 1999, *Preliminary*

analysis: Findingsfrom the 1999 National Survey of Mental Health and Wellbeing: Low prevalence.

Kessler, R.C., McGonagh, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, U. and Kendler, K.S. 1994, 'Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States', *Archives of General Psychiatry, 51:8-19.*

Mathers, C., Vos, T., Stevenson, C., (1999) *The Burden of disease and injury in Australia.* AIHW
cat. No. PHE 17. Canberra: AIHW.

Ministerial Council on Drug Strategy (Australia) (1998) *National Drug Strategic Framework*

1998-99 to 2002-03: Building Partnerships: A strategy to reduce harm caused by drugs in our community. Canberra: AusInfo.

Teesson, M., Hall, W., Lynskey, M. and Degenhardt, L. 2000, 'Alcohol and drug use disorders in Australia: Implications of the National Survey of Mental Health and Well-being', *Australian and New Zealand Journal of Psychiatry,* volume: 34 page 206-213.

World Health Organisation, 1996, *Composite International Diagnostic Interview,* World Health Organisation, Geneva.

Wu, L.T., Kouzis, A.C. and Leaf, **P.J.** 1999, 'Influence of comorbid alcohol and psychiatric disorders on utilisation of mental health services in the National Comorbidity Survey', *American Journal of Psychiatry; 156:1230-36.*

What is **comorbidity and why does** it matter?

Professor Wayne Hall, Dr Michael Lynskey and Dr MareeTeesson

Executive **Summary**

Comorbidity simply means the co-occurrence of one or more diseases or disorders in an individual. It is sometimes narrowly defined as the co-occurrence of schizophrenia and substance use disorders. We need to broaden our consideration of comorbidity in substance use and mental disorders in a number of ways.

Substance use disorders in persons with schizophrenia are a particularly pressing and serious problem for the affected individuals and their families; they also present a major problem for mental health services. But substance use disorders also co-occur with anxiety, affective, personality and other substance use disorders. These comorbidities are common and therefore have significant public health implications and well as consequences for the individual and society.

Different patterns of comorbidity are seen in specialist mental health and specialist addiction services. In mental health services a common presentation is schizophrenia and alcohol or other drug use disorders whereas in specialist addiction services comorbid anxiety, affective and personality disorders are much more common.

General practitioners see most persons with comorbid substance use and mental disorders.

Mental disorders can co-occur with each other as well as with substance use disorders; anxiety disorders often occur with each other, as well as with affective and personality disorders. Alcohol and other drug use disorders also frequently co-occur.

Symptoms of substance use, anxiety and affective disorders that do not meet criteria for disorders may also co-occur. Restricting discussion to disorder may limit our understanding of the extent of the problem partly because there is not a clear distinction between those who meet criteria for a disorder and those who do not.

Tobacco use is a common and neglected form of comorbid substance use in **all** mental disorders. It is especially common among persons with serious mental disorders. Given its adverse impact on the

health of individual smokers it is a pattern of substance use in mental disorders which is of major public health importance.

Mental disorders may co-occur for a variety of reasons.

They may be the result of the arbitrary separation of disorders, eg the anxiety disorders however, this is unlikely to explain comorbidity between substance use disorders and anxiety and affective disorders.

Some types of substance use disorders may directly cause mental disorders, for example, drug induced psychoses. Some mental disorders may increase the risk of substance use disorders, for example when individuals with anxiety and affective disorders use alcohol and other drugs to self-medicate.

Substance use and other mental disorders may share common causes or risks factors, as seems to be the case with conduct disorders and early onset alcohol and other drug use disorders.

The co-occurrence of substance use and other mental disorders and the reasons they co-occur have important implications for treatment and prevention.

Comorbid disorders are common, especially in specialist mental health and addiction services.

Persons who have comorbid substance use and mental disorders have poorer outcomes than those who have a single disorder. For example, the treatments of alcohol dependence and depression both tend to be less effective when conducted in the presence of the other disorder than when the comorbidity is not present.

We need to improve our understanding of the reasons for comorbidity in order to prevent disorders from occurring where possible and to better help individuals and their families who art affected by comorbid mental and substance use disorders,

Definition

In general medicine, Feinstein (1970, pp. 456-7) has defined comorbidity as, 'any distinct additional clinical entity that has coexisted or that may occur during the clinical course of a patient who has the index disease under study'.

This includes the co-occurrence of two or more physical diseases (eg heart disease and diabetes). which are defined in terms of their underlying cause (eg a micro-organism or a pathophysiological process). In the field of mental health, comorbidity more often applies to the co-occurrence of two or more different mental disorders (eg depression and alcohol dependence). which are defined in tenns of their characteristic symptoms rather than their underlying causes.

Co-morbidity in principle includes the co-occurrence of mental (eg depression) and physical (eg stroke or cancer) disorders. In mental health, comorbidity is sometimes even more narrowly defined as the co-occurrence of substance use disorders (eg alcohol or other drug abuse or dependence) and psychotic disorders. We need to broaden our thinking about comorbidity beyond this group.

Different types of cornorbidity

Comorbidity may also be defined by the similarity across classes of disorders or by the period of time in which the disorders occur.

The co-occurrence of substance use and other mental disorders has been termed 'heterotypic' comorbidity, meaning comorbidity between different classes of mental disorders (Angold, Costello and Erkanli, 1999). It may be contrasted with 'homotypic' comorbidity, that is, with comorbidity between different members of a general class of mental disorder (eg phobia and generalised anxiety disorder, and between alcohol and other drug use disorders).

Another distinction is made between 'concurrent' and 'successive' comorbidity. Concurrent comorbidity is that in which two or more disorders are present at the same time, such as schizophrenia and alcohol dependence. Successive comorbidity is defined as comorbidity in which disorders may occur at different times in a person's life, in ways that may or may not be causally related to each other.

Broadening comorbidity

The psychotic disorders of schizophrenia and bipolar disorder have an understandable urgency for those afflicted by them and their families, and the mental health workers who have to treat the distress and disability these disorders cause. The difficulty many carers experience in getting help for family members is compounded by the administrative separation in most Australian states of services for substance use and mental illness. They also often have very different treatment philosophies and cultures.

People with psychoses and substance use disorders (often referred to as dual diagnosis) are more likely to experience a range of negative outcomes including increased levels of medication non-compliance, psychosocial problems, depression, suicidal behaviour, re-hospitalisation, homelessness, poorer mental health, and higher family burden (Bartels et al., 1992; Drake et al., 1996). In addition, persons with dual disorders often have a poorer treatment outcome than those with mental disorders alone (Drake et al., 1996).

While the consequences of comorbidity between substance use disorders and psychosis are considerable, there are other patterns of comorbidity between substance use and mental disorders. As we shall see, substance use disorders are also common in persons with anxiety, affective and

personality disorders, symptoms of which can also be disabling and distressing to the affected individuals and their family.

Beyond specialist mental health services

Discussion of comorbidity within mental health understandably focuses on the most common types of comorbidity found among persons treated in the specialist mental health services. There are important differences in the patterns of comorbidity seen in patients treated by specialist mental health and specialist addiction services.

However, both types of specialist services provide treatment to persons with difficult and complex mental and substance use disorders. Their staff develops expertise in diagnosing and treating these disorders and undertake research on the causes and treatment of these disorders. Specialist treatment samples do not, however, provide an accurate picture of comorbidity in the population because persons with comorbid disorders are more likely to be referred to specialist mental health and addiction services. We accordingly need population surveys to describe patterns of comorbidity between substance use disorders and other mental disorders. Such data has now been provided by the National Survey of Mental Health and Wellbeing (NSMHWB) (Andrews, et al 1999).

The NSMHWB shows that general practitioners see most people with comorbid substance use and mental disorders and that general practitioners are the first, and often the only point of contact for many people with mental disorders. General practitioners accordingly provide the bulk of mental health services in the Australian community. Any policy that aims to reduce the burden of mental disorders in general, and of comorbid mental disorders in particular, must improve the recognition, diagnosis and management of these disorders in general practice.

Comorbid disorders and symptoms

Comorbidity often refers to comorbid mental disorders as defined in the *Diagnostic and Statistical Manual* or the WHO's *International Classification of Diseases* and most population surveys have used these diagnostic criteria. Some critics of these classifications argue that there are no sharp discontinuities in the symptom distributions for most mental disorders, even in the psychoses where many would be prepared to accept that a categorical model of disorder has the greatest validity. There is no obvious discontinuity in the symptom distributions of anxiety, affective, substance use or personality disorders assessed in the general population (Andrews et al., 1999). A brief history of psychiatric classification may help to loosen the hold that categorical diagnoses exert over our thinking about comorbidity.

Contemporary psychiatric classification has been influenced by the Kraepelinian model of mental disorders. According to this model, mental disorders are mutually exclusive categorical disease entities that are arranged hierarchically. Exclusion criteria ensure each individual receives one psychiatric diagnosis. The Kraepelinian approach had a major influence on the third revision Of the *Diagnostic and Statistical Manual* of the American Psychiatric Association (DSM-111).

The re-emergence of comorbidity as an issue in mental health owes something to serendipity. The Epidemiologic Catchment Area (ECA) study (Robins and Regier, 199 1) set out to estimate the prevalence of DSM-111 disorders in the population. The pencil and paper interview

technology used in the ECA made it difficult to implement the exclusion criteria embodied in both DSM-111 and ICD-9. This meant persons interviewed were assigned multiple DSM-III diagnoses rather than being forced to have a single diagnosis. Its findings made clear that many persons with one mental disorder had one or more other disorders. The National Comorbidity Survey has since confirmed the ECA findings (Kessler et al., 1994).

Giving different drugs their due

The attention'given to drug use in people with mental disorders is not always based on their prevalence of use and burden of disease. For example, cannabis use among people with schizophrenia has attracted attention recently in part because its use is a relatively recent phenomenon (Hall, 1998). It has sometimes overshadowed the more prevalent use of, the more readily available and much cheaper, alcohol among persons with schizophrenia (Hall, 1998).

The high prevalence of alcohol use among persons with mental disorders is small by comparison with the use of tobacco. Persons with serious mental illnesses have some of the highest rates of daily cigarette smoking in the community. More generally, people with mental disorders are over-represented among cigarette smokers in the community (Degenhardt and Hall, 1999). Giver the seriousness of the adverse effects that cigarette smoking has on health, tobacco use among persons with mental disorders deserves more attention in specialist mental health and addiction services and in public health campaigns.

Explaining cornorbidity

Comorbidity may be artefactual (Caron and Rutter, 199 1). The criteria for one disorder may overlap with the criteria used to define a second disorder so that supposedly separate mental disorders may not be as separate as they seem. For example, the case for a general neurotic syndrome has been cogently made on the basis of the extensive comorbidity that exists between supposedly different types of anxiety disorders (Andrews et al., 1990). This type of explanation is most plausible for homotypic comorbidity between different anxiety disorders, and possibly that between some anxiety and affective disorders. It is a less plausible explanation of comorbidity between anxiety and affective disorders, on the one hand, and substance use disorders, on the other.

If the comorbidity between substance use and anxiety and affective disorders is not artefactual, there are a number of hypotheses that may explain it (Kessler, 1995). First, one mental disorder may directly produce another. Drug-induced psychoses are plausible examples of this hypothesis. For example, there is evidence that heavy amphetamine use can produce a schizophreniform psychosis, which differs from schizophrenia in having an acute onset, and paranoid symptoms that rapidly remit with abstinence from amphetamines and do not recur unless amphetamine use is resumed (Angrist, 1983). A similar case can be made for alcohol-induced depression in persons who are alcohol dependent (Raimo and Schuckit, 1998). There are similar but more contentious arguments that heavy cannabis use can produce a psychosis (Hall, 1998).

A second possibility is that one mental disorder may indirectly increase the risk of a substanceuse disorder. For example, persons with anxiety and affective disorders may begin to use alcohol and other drugs in an effort to medicate their distress (Kessler, 1995). Although effective in the short term, with chronic use, self-medication miscarries, producing alcohol and other drug dependence. Similarly, children with conduct disorder and adults with antisocial personality disorder may initiate alcohol and other drug use earlier than their peers because of their greater propensity to take risks and engage in antisocial conduct. This early initiation produces a lonoer history of heavier alcohol and other drug use, increasing the risks of developing alcohol and drug dependence at an early age (Kandel et al., 1986; Kandel, 1993).

A third possibility is that comorbidity between substance use and other mental disorders may arise from common causes. The syndrome of delinquency, alcohol and drug abuse, precocious sexual activity, and poor school performance may, for example, be manifestations of a common genetic predisposition and family circumstances, all of which increase the chances of developing alcohol and drug dependence disorders and antisocial personality disorder (Jessor and Jessor, 1977).

These hypotheses can be tested in longitudinal studies of mental disorders (eg Fergusson et al., 1997) in population samples that minimise the selection bias that affects treatment samples. A number of studies that have followed children from birth into early adulthood promise to elucidate these issues. These include the Christchurch Child Health and Development Study in Christchurch and a similar study in Dunedin New Zealand. There are also long-term follow-up studies of people recruited as adolescents and followed into adult life, which have improved our understanding of the adult mental health consequences of adolescent alcohol and drug use (Kandel et al., 1986; Newcomb and Bentler, 1988; Vaillant, 1995). Another research strategy is to conduct intervention studies. These enable us to see if successful treatment of one disorder (eg a substance-use disorder) improves the outcome of the other mental disorder (eg schizophrenia).

Why does comorbidity matter?

There are a number of reasons comorbidity matters. Firstly, co -Morbidity is the rule rather than the exception with mental disorders, as is clear from studies in a number of countries including Australia (Andrews et al., 1999; Merikangas et al., 1998; Hall, 1996).

Secondly, if we do not take comorbidity into account when studying individual mental disorders we may mistake characteristics of the disorder under study for those that are due to an ignored comorbid condition (Kessler, 1995).

Thirdly, understanding why different disorders co-occur may provide important opportunities for prevention. For example, if we can identify people with symptoms of anxiety and affective disorders we could intervene to reduce self-medication with alcohol and other drugs.

Fourthly, persons with comorbid mental disorders often have a poorer treatment response and a worse course of illness over time (Kessler, 1995). They are more impaired, suffer greater social disability and generate larger social costs. This is probably in part because comorbid disorders are not diagnosed and treated and in part because persons with more than one mental disorder are more difficult to treat. Persons who have comorbid substance use and mental disorders have poorer outcomes than those who have a single disorder. This has been well demonstrated in schizophrenia (Drake et al., 1996) but is also the case in depression and anxiety (Kranzler et al., 1996). For example, the treatments of alcohol dependence (Project Match Research Group, 1997) and depression (Worthington et al., 1996) both tend

to be less effective when conducted in the presence of the other disorder than when the comorbidity is not present

Fifthly, comorbidity has important implications for treatment. For example, in persons for whom alcohol dependence is a cause of depression, treatment of alcohol dependence may alleviate or eliminate depressive symptoms (Schuckit et al., 1997a; 1997b). Conversely, if alcohol dependence arises from self-medication of depression, the treatment of depression may reduce symptoms of alcohol dependence whereas the treatment of alcohol problems may not affect symptoms of depression.

Sixthly, even when there is no causal relationship between alcohol dependence and an affective disorder, having one disorder may worsen the symptoms and course of the other. For example, depressive symptoms may increase alcohol consumption and alcohol-related harm in persons who are vulnerable to developing alcohol disorders. It may also impair compliance with treatment of alcohol dependence.

References

Andrews, J.G., Stewart, G., Morris-Yates, A., Holt, P. and Henderson, A.S. 1990, 'Evidence for a general neurotic syndrome', *British Journal of Psychiatry, 157:6-12.*

Andrews, G., Hall, W., Teesson, M. and Henderson, A.S. 1999, *The Mental Health of Australians,* Commonwealth Department of Health and Aged Care, Canberra.

Angold, A., Costello, E. **J.** and Erkanli, A. 1999, 'Comorbidity', *Journal of Child Psychology and Psychiatry, 40:57-87.*

Angrist, B. 1983, 'Psychoses induced by central nervous system stimulants and related drugs', in

I. Creese (ed.) *Stimulants: Neurochemical, Behavioral and Clinical Perspectives,* Raven Press, New York.

Bartels, **S.J.,** Drake, R.E. and McHugo, **G.J.** 1992, 'Alcohol abuse, depression, and suicidal behaviour in schizophrenia', *American Journal of Psychiatry,* 149(3):394-95.

Caron, C. and Rutter, M. 1991, 'Comorbidity in child psychopathology: Concepts, issues and research strategies', *Journal of Child Psychology and Psychiatry, 32:1063-80.*

Degenhardt, L. and Hall, W. 1999, *Nicotine and mental health: Findings from the National Survey of Mental Health and Well-being,* Technical Report 80, National Drug and Alcohol Research Centre, Sydney.

Drake, R.E., Mueser, K.T., Clark, R.E. and Wallach, M.A. 1996, 'The course, treatment and outcome of substance disorder in persons with severe mental illness', *American Journal of Orthopsychiatry,* 66(l):42-5 1.

Feinstein, A.R. 1970, 'The pre-therapeutic classification of comorbidity in chronic disease', *Journal of Chronic Disease, 23:455-68.*

Fergusson D., Horwood, **J.** and Lynskey, M. 1997, 'Early onset cannabis use and psychosocial adjustment in young adults', *Addiction,* 92:279-96.

Hall, W. 1996, 'What have population surveys revealed about substance use disorders and their co-morbidity with other mental disorders?'Drug *and Alcohol Review,* 15:157-70.

Hall, W. 1998, 'Cannabis and psychosis', *Drug and Alcohol Review,* 17:433-44,

Jessor, R. and Jessor, S.L. 1977, *Problem Behavior and Psychosocial Development: A Longitudinal Study of Youth,* Academic Press, New York.

Kandel, D.B., Davies, M., Karus, D. and Yamaguchi, K. 1986, 'The consequences in young adulthood of adolescent drug involvement', *Archives of General Psychiatry, 43:746-54.*

Kandel, D.B. 1993, 'The social demography of drug use', in R. Bayer and G.M. Oppenheimer *(eds) Confronting Drug Policy: Illicit Drugs in a Free Society.* Cambridge University Press, New York.

Kessler, R. 1995, 'The epidemiology of psychiatric comorbidity', in M.T. Tsuang, M. Tohen and G. Zahner (eds) *Textbook of Psychiatric Epidemiology,* John Wiley and Sons, New York.

Kessler, R.C., McGonagh, K.A., Zhao,,S., Nelson, C.B., Hughes, M., Eshleman, S. Wittchen, U. and Kendler, K.S. 1994, 'Lifetime and 12-month prevalence of DSM-II-R psychiatric disorders in the United States', *Archives of General Psychiatry, 51:8-19.*

Kranzler, H.R., Del Boca, EK. and Rousaville B.J. 1996, 'Comorbid psychiatric diagnosis predicts three-year outcomes in alcoholics: A post-treatment natural history study', *Journal of Studies on Alcohol,* 57:619-26.

Merikangas, K.R., Mehta, R.L, Molnar, B.E. et al 1998, 'Comorbidity of substance use disorders with mood and anxiety disorders: Results of the international consortium in psychiatric epidemiology', *Addictive Behaviors,* 23:893-907.

Newcomb, M.D. and Bentler, P. 1988, *Consequences of Adolescent Drug Use: Impact on the Lives of Young Adults,* Sage Publications, Newbury Park, California.

Project Match Research Group 1997, 'Matching alcoholism treatments to client heterogeneity: Project MATCH post-treatment drinking outcomes', *Journal of Studies on Alcohol,* 58:7-29.

Rairno, E.B. and Schuckit, M.A. 1998, Alcohol dependence and mood disorders, *Addictive Behaviours, 23:933-46.*

Robins, L.N. and Regier, D.A. (eds) 1991, *Psychiatric Disorders in America: The Epidemiologic Catchment Area Study,* The Free Press, New York.

Schuckit, M.A., Tipp, J.E., Bergman, M., Reich, W., Hesselbrock, YM. and Smith, T.L. 1997a, ,Comparison of induced and independent major depressive disorders in 2 945 alcoholics', *American Journal of Psychiatry, 154:948-57.*

Schuckit, M.A., Tipp, J.E., Bucholz, K.K., Numberger, **J.I.,** Hesselbrock, YM., Crowe, R.R. and Kramer, **J.** 1997b, 'The life-time rates of three major mood disorders and four major anxiety disorders in alcoholics and controls', *Addiction,* 92:1289-1304.

Vaillant, G. 1995, *The Natural History ofalcoholism Revisited,* Harvard University Press, Cambridge MA.

Worthington, **J.,** Fava, M., Agustin, C., Alpert, J., Nierenberg, A.A., Pava, J.A. and Rosenbaum, J.E 1996, 'Consumption of alcohol, nicotine, and caffeine among depressed outpatients', *Psychosomatics,* 37:518-22.

What is comorbidity and why does it matter?
Workshop discussion

Pro&ssor Hall summarised the implications of his paper as follows:

- **What needs to start happening?**

Recognition that comorbidity exists and that general practitioners play an important role in delivering care to people with comorbid drug and alcohol and mental disorders. Further, tobacco use, which is often ignored, is a significant factor when addressing comorbidity.

What needs to stop happening?

The lack of communication between specialist services.

In the year 2005 where should we be ?

The year 2005 would see better integration of services, recognition of the extent of the burden resulting from comorbidity and better identification and early intervention.

What critical barriers need to be overcome to get there?

The critical barrier is the different cultures which exist in mental health and the addictions field. The philosophy of care and treatment are different and it will require acknowledgment of common ground to address this barrier.

The clinical significance of mental disorders

Professor Gavin Andrews, Ms Cathy lssakidis and MrTim Slade

Executive summary

Concurrence, having more than one mental or substance use disorder at the same time, is more common than would be expected, as though certain people are more likely to develop disorders than others. People and families and clinicians all have to cope with concurrent disorders.

Comorbidity is a theoretical concept that refers to having more than one disorder at various times. It indicates vulnerability to illness and points to disability and a higher need to use health services.

We looked at the frequency of common disorders in the last 30 days in people in the Australian mental health survey. We also measured disability using the SF-12, a short version of the familiar SF-36, and multiplied the number of people affected by a disorder by the disability score to give the amount of disability in the population that was accounted for by each diagnostic group.

Depression, anxiety and personality disorder accounted for more total disability than did somatoform disorder, substance dependence or psychosis (see Table 1). Even when we looked at concurrent diagnoses as well as single diagnoses the same pattern emerged (see Table 2b). But always people with two or more disorders were counted two or more times.

When we added the disability due to people with a single disorder to that due to people with two or more disorders who had identified a main disorder that 'troubled you the most' the picture changed (see Table 3b). Three quarters of the mental disorder-related disability in Australia was related to depression and anxiety, with the remainder split between the other four groups of disorders.

The majority of people with two or more concurrent disorders rated anxiety, psychosis and depression as their major concern. A minority of people with concurrent substance dependence, personality or somatoform disorders rated those disorders as their major concerns.

We conclude that although the majority of health care funding goes into psychosis and substance dependence, in part because these disorders can cause affront and alarm, the majority of treatable disability lies within the affective and anxiety disorders which do not cause affront or alarm. Perhaps we could better prioritise treatment.

Comorbidity is a term that means having more than one disorder at various times. Concurrent disorders are those that actually occur at the same time. Neither is a strange concept in medicine. The elderly, if lucky, will only suffer from glaucoma and arthritis, the young don't mind if they have myopia and intermittent asthma. Having a disease is not uncommon, having two is not much less common. Structured diagnostic interviews have largely been responsible for increasing the psychiatric research community's awareness of the importance of diagnostic concurrence and comorbidity. Multiple diagnoses, both current and past are more common, single diagnoses less common, as though the burden of mental disorders tends to be concentrated in certain individuals. Sturt (1991), using data collected in the United Kingdom by clinical interviewers found exactly this, as did Boyd et al (1984), analysing the famous epidemiologic catchment area study in the United States. It is a general finding that is independent of instrument or country, and unlikely to be artefact.

Clinicians know this problem well. It is difficult to treat a person with schizophrenia whose psychotic symptoms are sometimes due to the psychosis and sometimes due to drug dependence. Likewise, the combination of personality disorder and somatization disorder, or depression and anxiety, or any combination of the major groups of mental disorders, produces more disability, makes the outlook worse, the clinician's task more difficult, and the family's burden greater. Everyone calls for help when people have concurrent disorders, it can be an emergency. But judging things to be important from what forces itself upon us is a general type of human error Our government swings into action following dramatic rural events like floods, and is slow to pay attention to insidious rural phenomenon like the gradual loss of productive farmland by rising salinity, ' even though the burden of salinity is much greater than the burden of floods. So it is with comorbidity and concurrent disorders. Those that cause alarm will receive help, those that quietly destroy a person's productivity can be ignored.

This paper is concerned to estimate the clinical significance of each group of mental disorders by using data from the *National Mental Health Survey* in which a random sample of Australian adults could have their say about what troubled them. No one was ignored.

The Murray and Lopez (1996) *Global Burden of Disease* project showed that mental disorders were the principal cause of 'years lived with disability' and that, because of this, mental disorders ranked high in any table of the global burden of disease. It actually may have overestimated the burden of mental disorders because it did not control for concurrence and hence, while they took care to attribute years of life lost to only one disease, years lived with a disability were multiply attributed to all diseases a person currently had. There have been a number of attempts to rectify this (Andrews et al., 1998). The recent Australian burden of disease study (Mathers et al., 1999) took a straightforward approach, apportioning the average disease weight between all disorders present, and for this reason, as well as for other methodological changes, it calculated the burden of mental disorders in Australia at 15 per cent of the total, third in importance after heart disease and cancer, a proportion that indicates the public health importance of mental disorders.

Comorbidity is a slightly different issue to concurrence. Comorbidity refers to the clustering of mental disorders in certain individuals over time, that is, it refers to a history of disorders in the past as well as to the concurrence of disorders in the present (see Wittchen, 1996). Andrews et al (1990; 1996) studied the common neurotic disorders in volunteer twin and clinic samples and related comorbidity to the presence of a general vulnerability factor to these disorders. That is, while the

clinical phenomenology may be distinct, the underlying disorders may not be. Kessler et al (1994) studied a probability sample of the United States population aged 18-54 and reported that nine out of 10 severe 12-month disorders occurred in the 14 per cent of the sample with a lifetime history of three or more disorders. Andrews et al (in press) used the Australian national survey data to show that even within a 12-month timeframe, people with symptoms that met criteria for three or more disorders over the 12 months had ten times the risk of having a current disorder, were eight times more likely to have a mental health consultation and seven times more likely to be disabled, when compared with people who had had only one disorder in the past 12 months.

Comorbidity, the presence of two or more disorders sometime during an extended time period, is actually an abstraction, useful for discussing risk factors, disability or service utilisation. On the other hand, burden of disease calculations and health service planning require concurrent disorders to be addressed, and concurrent disorders are what the clinician must deal with. People who are sick want their concurrent disorders addressed, they do not care too much what the past held or the future may hold, provided they can be relieved today. This paper is about determining the clinical significance of the various groups of mental disorders by controlling for the confounding effect of concurrent disorders. Comorbidity will not be further referred to. Prevalence and disability data from the Australian mental health survey will be used to estimate the clinical significance of mental disorders controlling for the presence of concurrent disorders.

Method

Skip unless you disagree with the results and want to find out where the investigators went wrong.

Sample

The survey was conducted by the Australian Bureau of Statistics under the terms of their Act that guarantees the privacy of respondents. The survey covered urban and rural areas across Australia. A rnultistage sample of private dwellings was drawn. Each State and Territory was stratified and each dwelling within a stratum had an equal and known probability of selection. In all, 13 624 private dwellings were initially selected in the survey sample, and one adult member randomly selected as the possible respondent; 1 477 people refused, in 558 households contact could not be made with the identified respondent, and in 948 households no interview occurred because the identified respondent could not communicate, there was death or illness in the household, or the interview was prematurely terminated. The sample included people aged 18 years and over who were usual residents of households in the identified private dwellings. The sample did not include persons in hospitals, nursing homes, hotels, gaols etc., or residents of households in remote and sparsely settled parts of the country. For this reason persons of Aboriginal descent were under-sampled and are not further identified in this paper. Ten thousand, six hundred and forty-one people participated, a response rate of 78.1 per cent. The age and sex characteristics of the sample were weighted to match the age and sex distribution in the national census.

Assessment

The whole interview was administered from a laptop computer. The CIDI (Andrews and Peters 1998) was used to determine, using ICD- 1 0 and DSM-IV criteria, the presence of:

- six anxiety disorders - panic disorder, agoraphobia, social phobia, (simple phobias were not identified), generalised anxiety disorder, obsessive compulsive disorder, post traumatic stress disorder ;
- two affective disorders - major depression, dysphemia; and

- four substance use disorders - alcohol dependence and drug dependence.

Substance abuse/harmful use was also identified but the criteria are disputed and those data are not further considered.

Screening questions were used to determine personality disorders (Loranger et al., 1997) and an interview for ICD Neurasthenia (Tacchini et al., 1995) was modified to reflect the CDC criteria for Chronic Fatigue Syndrome or DSM-IV undifferentiated somatoform disorder (Hickie et al., 1997).

The CIDI module for schizophrenia generates false positives (Kendler, 1996) and a five-item psychosis screener was used instead.

Disability was measured at the beginning of the interview by the SF- 12 (Ware et al., 1996). The SF-12 is a generic measure of disability that has a mean of 50 and a standard deviation of 1 0. People who are disabled score less than 50, people who are very well score more than 50. The SF- 12 produces two scores, a mental competency score and a physical competency score, the present data only refer to the former. It is reliable, valid and sensitive to change and the longer form (SF-36) has been widely used in Australia. We consider that it will become the standard health outcome measure in both mental and physical medicine. The mental health score relies on questions about vitality, social functioning, emotional role and mental health.

Training interviewers and analysing data

All interviewers were experienced interviewers employed by the Australian Bureau of Statistics. Supervisors for each State and Territory were trained to criterion at the WHO Training and Reference Centre for CIDI in Sydney and then had a subsidiary course on how to train field staff.

Routine data analysis procedures were used but, as a result of the complex sample design and weighting, special software was needed to estimate standard errors. The standard errors of prevalence estimates and proportions were estimated using 'delete- 1 jackknife repeated replication in 30 design-based subsamples' (Kish and Frankel, 1974). These calculations used the substance use disorder AAN software package (Shah et al., 1997).

Results and discussion

Now read on, it's different to the usual paper - we'd like you to look at the tables as you read, to see if you think they mean what we think they mean.

Table 1: **Current diagnoses - population prevalence, disability and consequent population disability attributed to each disorder group**

Prevalence and relative disability

	Population prevalence	Mean SF- 12 deviation	Population disability units
Diagnosis	**000 (%)**	**X**	**'000**
Affective	518 **(3.8)**	**1.7**	**881**
Anxiety	**739 (5.5)**	**1.1**	**813**
Substance dependence	297 (2.2)	**0.6**	178
Personality	**709 (5.3)**	**0.8**	**566**
Psychosis*	**56** (0.4)	1.0	**56**
Somatoform	**164** (1.2)	1.5	**245**
Sum of the above	2483 (18.4)	-	2 739
Any mental disorder	1 **660** (12.3)	**0.8**	**1494**

† People who met criteria for abuse without dependence are not included in this analysis.
*if a weighting of severe disability for psychosis is used, the population disability units are 3.0 x **56** = 168 000.

Table 1 commentary

Consider the table column-by-column:

The first column is about the frequency of the diagnostic groups in the population. Anxiety disorders are the most common mental disorders and in any month, 739 000 Australian adults are affected. People could have more than one anxiety disorder, say Post Traumatic Stress Disorder (PTSD) and Obsessive Compulsive Disorder (OCD), but in this table they would still be counted as having just one anxiety disorder. The frequency of personality disorders has never before been estimated in any population survey and while the prevalence (5.3%) is close to what was expected, more work is required to know exactly who was being identified. The diagnoses of affective, substance use and somatoform disorders are standard, are as expected, and the rates are likely to be correct. Psychosis was the rarest disorder, 14 times less common than anxiety disorders. Psychosis was identified by five screening questions and while the rate (0.4%) is certainly correct and about 56 000 Australians do currently suffer from a psychosis, we are not sure that the people identified are the same as those identified in the recent low prevalence survey (Jablensky et al., 2000).

The second column is about disability. The results in column two are the standardised disability score; 0-1 mild disability, 1-2 moderate disability, and 2 or more severe disability. Remember, these are group means, and individual scores are distributed above and below the mean value. In this column the affective disorders generate the highest scores and the substance use disorders the lowest. We have evidence that such self-report measures do not accurately represent the true disability associated with psychosis and have arbitrarily assigned an average score of three (severe disability) to most cases of psychosis. The significance of this decision will become apparent in later tables.

The third column is about the total disability in the Australian population attributed to people with the various disorders. When the number of cases is multiplied by the average level of disability of those cases, the affective and anxiety disorders are principal causes of disability in the community and, psychosis aside, substance use and somatoforrn disorders the least. But even if one substitutes a value of three for all persons with psychosis, it still generates less total disability that any other group of disorders, simply because it is a rare disorder. The lowest individual disability score in the national mental health survey was 4.2, thus an average score of three for a whole psychosis group is very low indeed.

The bottom row shows that 1.7 million (1 660 000) people in Australia meet criteria for any current mental disorder, their average SF-12 score is 0.8 and the product of these scores is 1.5 million disability units. In the sub-total line above, we show the total number of diagnoses as 2.5 million (50 per cent greater), as though half the people had symptoms that meet criteria for two diagnosis groups. Actually some people meet criteria for three or four diagnoses and rather fewer have two diagnoses, but the idea should be clear. In the right hand column the population disability units are 2 739 000, twice as high as in the bottom or 'any mental disorder' row, demonstrating that people with comorbid disorders are more likely to have higher disability scores, higher even than the concurrence of two diagnoses would suggest.

Table 2a: Prevalence and disability of concurrent one-month diagnoses

Diagnosis				Concurrent diagnoses			
	Affective	Anxiety	Substance dependence	Personality	Psychosis	Somatoform	Total
	'000	'000	'000	'000	'000	'000	'000
Affective	**183**	245	**64**	**185**	20	74	
x SF-12 deviation	**1.4**	1.8	1.9	1.8	1.9	2.2	518
Anxiety	--	**324**	**77**	241	15	**89**	
x SF-12 deviation	--	**0.6**	**1.5**	**1.5**	1.9	1.8	739
Substance dependence	--	--	**165**	72	†	18	
x SF-12 deviation	--	--	**0.1**	1.2	†	2.1	297
Personality	--	--	--	378	16	57	
x SF-12 deviation	--	--	--	0.3	1.8	2.0	708
Psychosis					**23**	†	
x SF-12 deviation					**3.0**	†	56
Somatoform						**47**	

x SF- 1 2 deviation						**0.8**	164

† = 10 000

Table 2b: Population disability units of concurrent one-month diagnoses

Diagnosis				Concurrent diagnoses			
	Affective	Anxiety	Substance dependence	Personality	Psychosis	Somatoform	Total
	'000	'000	'000	'000	'000	'000	'000
Affective	**256**	441	122	333	38	**163**	881
Anxiety		**194**	116	362	29	160	813
Substance dependence			**17**	**86**	†	38	178
Personality				**113**	29	114	566
Psychosis					**69**	†	168
Somatoform						**38**	245

† < 10 000

Tables 2a and 2b commentary

These are exactly the same people as in Table 1, now arranged according to their concurrent diagnoses. In the top row 183 000 Australians met criteria for an affective disorder only and their mean disability score was 1.4; 245 000 Australians met criteria for concurrent anxiety and affective disorders and their mean disability score was 1.8; and so on.

On the diagonal, in bold, are the disability scores for people who met criteria for only one current diagnosis. The top two disability values were psychosis (remember we rescored all of them as severely disabled) and affective disorders. The least disabling single disorders were substance dependence and personality disorders, respondents with substance dependence and no other disorder returning an average score of 0. 1 standard deviation on the SF- 1 2. Thus while some might have regarded themselves as very well and others as disabled, it was the average of the c

group that was close to zero, not that all individuals with substance use disorders as their only mental disorder scored close to zero.

The cumulative disability associated with each single and double disorder is shown in Table 2b in the same population disability units as used in Table 1, in fact the total disability scores by diagnosis are exactly the same as in the right hand column in Table 1. The largest contributor to disability at the population level is the combination of anxiety and affective disorders. The least significant is substance

dependence alone (we would advise ignoring cells with less than 10 000 people simply because the numbers in the survey on which they were based are too small to be reliable). While it is easy to identify the highest and the lowest single diagnoses, and the highest and lowest combinations of diagnoses that contribute to psychiatric disability, it is very difficult to form a judgment about the totality of the data in Table 2b, important as it is.

Table 3a: Prevalence and disability associated with only or main problem diagnoses

Diagnosis as only or main problem					Other diagnosis as main problem			
Diagnosis	**Only**	**Main**						
			Affective	**Anxiety**	**Substance Dependence**	**Personality**	**Psychosis**	**Somatofo**
	'000	**'000**	**'000**	**'000**	**'000**	**'000**	**'000**	**'000**
Affective	183	192		107	†	†	13	†
x SF-12 deviation	1.4	1.9	--	1.9	†	†	2.2	†
Anxiety	324	324	80	--	†	20	†	†
x SF-12 deviation	0.6	1.2	2.1	--	†	1.6	†	†
Substance dependence	165	53	23	35	--	†	†	†
x SF- 12 deviation	0.1	0.4	2.0	1.5	--	†	†	†
Personality	378	99	62	111	13	--	†	†
x SF-12 deviation	0.3	0.9	1.8	1.5	0.7	--	†	†
Psychosis	23	20	†	†	†	†	--	†
x SF-12 deviation	3.0	3.0	†	†	†	†	--	†
Somatoform	47	32	29	34	†	†	†	--
x SF-12 deviation	0.8	1.0	2.4	1.7	†	†	†	--

† < 10 000

Table 3b: Population disability units associated with only or main problem diagnoses

PDU'S: Diagnosis as only or main problem			Relative burden	
Diagnosis	Only	Main	Total	%Total PDUs
	'000	'000	'000	%Total PDUs
Affective	**256**	**365**	621	38
Anxiety	194	389	583	35
Substance dependence	17	21	38	2
Personality	113	89	202	12
Psychosis	69	60	129	8
Somatoform	38	32	70	4
Total	**687**	**956**	**1643**	**100**

Tables 3a and 3b commentary

The prevalence and mean disability scores for people with only one current diagnosis are displayed in the first column of Table 3a and the population disability units in the first column of Table 3b. They are exactly the same numbers that were on the diagonals in Tables 2a and 2b.

In the survey, once all diagnoses had been established, each person who was likely to meet criteria for more than one of the listed diagnoses was asked, 'you mentioned having problems like (listing their groups of symptoms). Which troubled you the most?'Their response to this question was recorded as the main problem for those with concurrent disorders, and the numbers, mean disability and total disability units are displayed in column two of Tables 3a and 3b.

When people have two or more disorders, what proportion chose a particular group as their main disorder? At some level this gives an indication of what they might seek treatment for, or the disorder they would most like to be without, not necessarily what might disable them the most. Seventy-seven per cent of people with a concurrent anxiety said it was their main complaint; 61 per cent of people with psychosis and 54 per cent of people with affective disorders said likewise. These three disorders were of greatest importance to the sufferer, and anxiety disorders, above all other concurrent disorders, seemed to trouble people the most. Forty per cent of people with a concurrent substance use dependence chose it as their main complaint, 28 per cent of people with a personality disorder and 27 per cent of people with a concurrent somatoform disorder did likewise. That is, in these three groups of disorders, other comorbid disorders were judged to be more troubling, mostly these were the comorbid disorders listed in Table 2a but sometimes people identified a concurrent physical disorder as their main complaint.

In Table 3b we list the population disability units for single or only disorders, for the identified main disorder when there were two or more present and the total for the two classes. Nobody is counted twice, the total gives the sum of population disability units attributable to each group of disorders. The total 1 643 000 population disability units, is greater than the sum of the averages in Table 1, because now we include only the disorders the respondents see as primary, presumably most severe, but it is less than the subtotal in Table 1 because there is no double counting of disability. The affective and anxiety disorders are the largest, accounting for 38 per cent and 35 per cent of the population total of disability respectively, or 73 per cent in all. The remaining 27 per cent is divided among the other

three classes: personality disorders 12 per cent, psychosis (even with the higher loading) 8 per cent, somatoform disorders 4 per cent and substance use disorders 2 per cent. These results are not dissimilar to the years lived with disability proportions in the Australian burden of disease study.

Conclusion

Australia spends 5 per cent of its total health budget (public and private practice, specialist and general practitioner, in-patient and outpatient, veterans affairs and the pharmaceutical benefits scheme) on mental health. This is half the amount of money per capita that Canada and the United Kingdom spend, less even than New Zealand. About half this money is spent on Psychosis and substance dependence treatment, disorders that do not account for a great deal of the total patient suffering or disablement.

If we were to respond to suffering or to the public health approach of relieving the burden of disease we would prioritise both the anxiety and the affective disorders. The preferential funding Of Psychosis and substance use exists because, in a democracy, funds are allocated partly in response to voter demand. Families of young people who develop psychosis or substance dependence are affronted by the change in their loved one. Other families are afraid their children might develop these disorders. Together, they form a potent advocacy group. But the wider society is also sensitive to these concerns. Fear of the crazed psychotic or drug addict is an important societal concern, and protection from this perceived fear is seen as legitimate expenditure of taxes.

This meeting is a cooperative endeavour between the Mental Health and Special Programs Branch and the National Drug Strategy. In the initial planning meetings it was clear that concerns were centred on comorbidity between psychosis and substance dependence. We have presented data that the main burden of concurrent disorders is elsewhere. The World Health Organization has argued that, as there are insufficient funds to provide health care to all, we might prioritise diseases of greatest burden and diseases in which there are cost-effective treatments. On both grounds the anxiety and affective disorders rank higher than the other mental disorders. Earlier we noted the human tendency to respond to emergencies, to prefer flood mitigation over salinity control. 1 ask this meeting to consider the lost productivity that the many people with depression and anxiety generate and use our limited funds to restore more people with anxiety and depression to a productive life. It won't be as dramatic as responding to psychosis or substance dependence but it might avert more suffering and disability among those who are sick.

References

Andrews, G., Henderson, **A.** and Hall, W. (in press) 'The need for treatment in an insured population', *Archives of General Psychiatry.*

Andrews, G. and Peters, L. 1998, 'Psychometric properties of the CIDI', *Social Psychiatry Psychiatric Epidemiology, 33:80-88.*

Andrews, G., Sanderson, K. and Beard, **J.** 1998, 'Burden of Disease: methods for calculating disability from mental disorder', *British Journal of Psychiatry, 173:123-3* 1.

Andrews, G., Stewart, G.W., Morris-Yates, A., Holt, P.E. and Henderson, A.S. 1990, 'Evidence for a general neurotic syndrome', *British Journal of Psychiatry, 157:6-12.*

Andrews, G. 1996, 'Comorbidity and the general neurotic syndrome', *British Journal of Psychiatry,* 168 (suppl3O):76-84.

Boyd, **J.H.,** Burke, **J.D.,** Gruenberg, **E.,** Holzer, C.E., Rae, **D.S.,** George, **L.K.** et al 1984, 'Exclusion Criteria of DSM-111', *Archives of General Psychiatry, 41:983-89.*

Hickie, I., Hadzi-Pavlovic, D. and Ricci, C. 1997, 'Reviving the diagnosis of neurasthenia', *Psychological Medicine,* 27:989-94.

Jablensky A., McGrath J., Herrman H., Castle D., Gureje 0., 2000, Psychotic disorders in urban areas: an overview of the study on low prevalence disorders. *Australian and New Zealand Joumal of Psychiatry: 34:221-236.*

Kendler, K.S., Gallagher, T.J., Abelson, J.M. and Kessler, R.C. 1996, 'Lifetime prevalence, demographic risk factors, and diagnostic validity of non-affective psychosis as assessed in a US community sample', *Archives of General Psychiatry, 53:1022-3* 1.

Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman, S., Wittchen, H-U. and Kendler, K.S. 1994, 'Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States', *Archives of General Psychiatry, 51:8-19.*

Kish, L. and Frankel, M.R. 1974, 'Inference from complex samples', *Journal of the Royal Statistical Society,* Series B.36:1-37.

Loranger, A.W., Janca, A. and Sartorius N, eds 1997, *Assessment and Diagnosis of Personality Disorders,* Cambridge University Press, Cambridge.

Mathers, C., Vos, T. and Stevenson, C. 1999, *The Burden of Disease and Injury in Australia,* Australian Institute of Health and Welfare, Cat no PHE17, Canberra.

Murray, C.J.L. and Lopez, A.D. 1996, *The Global Burden of Disease,* Harvard University Press, Cambridge, MA.

Shah, B.V., Bamwell, **B.G.** and Biegler, G.S. 1997, *SUDAAN User's Manual,* Research Triangle Institute, Research Triangle Park, NC.

Sturt, E. 198 1, 'Hierachical patterns in the distribution of psychiatric symptoms', *Psychological Medicine, 11:783-94.*

Tacchini, R., Janca, A. and Issacs, M. 1995, *Neurasthenia,* Divison of Mental Health, World Health Organization, Geneva.

Ware, J.E., Kosinski, M. and Keller, S.D. 1996, 'A 12-item short form health survey', *Medical Care,* 34:220-33,

Wittchen, H-U. 1996, 'What is comorbidity - fact or artefact, *British Journal of Psychiatry, 168*

(Suppl. 30):7-8.

The clinical significance of mental disorders: Workshop discussion

Professor Andrews, in his presentation, highlighted the following points:

- Having a disorder is not uncommon, having two is not much less uncommon.

- Structured surveys of the general population have been responsible for increasing our knowledge of the importance of diagnostic concurrence and comorbidity. Furthermore, they are crucial for intelligent service planning.

- *The National Mental Health Survey* interviewed a random sample of Australian adults and allowed them to have a say about what troubled them. No one was ignored.

- We as a society need to question our values and our decisions: drug use and psychosis are emotive issues and are often linked to violence, crime and severe disability for the individual and their family. Depression and anxiety, although far more prevalent go unnoticed because their outcomes are generally non-violent and less obvious, although depression and anxiety problems can be just as disabling for the individual.

- The burden to society of mental disorders and substance use disorders is considerable. The recent WHO Burden of Disease report estimates that mental health and drug and alcohol contribute 20 per cent to the burden of disease in society. Mental disorders are the third leading cause of burden in developed countries, after cardiovascular disease and neoplasms. Within the mental disorders, anxiety and depression account for 56 per cent of the overall burden and substance use disorders account for 23 per cent. Importantly, anxiety and depression are amenable to care.
- The other important information highlighted by the Australian Burden of Disease report is that mental health and drug and alcohol contribute 20 per cent to the burden of disease in society yet only 5 per cent of the health budget, or 0.4 per cent of the gross domestic product is spent on mental health and drug and alcohol in Australia. This is half of what Canada, the United Kingdom and New Zealand spends. There won't be a redistribution of funds so it is a matter of managing scarcity.

- Calman (1994) argues that we have a duty to provide care to all who are ill and then triage the remainder to specialists according to cost-effectiveness. Bobadilla et al (1994) argues that no country can meet all needs, therefore we must prioritise according to burden of disease.

- We (the authors) looked at the frequency of common disorders in the last 30 days in people in the Australian mental health survey. We also measured disability using the SF- 12 and multiplied the number of people affected by disorders by the disability score to give the amount of disability in the population that was accounted for by each diagnostic group.

Half of individuals with a disorder had more than one disorder. Depression, anxiety and personality disorder accounted for more total disability than did somatoform disorder, substance dependence or psychosis. Even when we looked at concurrent diagnoses as well as single diagnoses the same pattern emerged. But always people with two or more disorders were counted two or more times.

- Three-quarters of the mental disorder-related disability in Australia was related to depression and anxiety. The majority of people with two or more disorders rated anxiety, psychosis and depression as their major concern.

- The majority of health care funding goes into psychosis and substance dependence, in part because these disorders can cause affront and alarm, the majority of treatable disability lies within the affective and anxiety disorders which do not cause affront or alarm. Perhaps we could better prioritise treatment.

Following the presentation the following issues were raised by a number of workshop participants:

- It was recognised that the facts presented by the epidemiology are sound and that the artificial distinctions between drug and alcohol and mental health are indeed artificial and very unhelpful in delivering care.

- There was discussion around building priorities in service delivery and recognition that there were not sufficient resources to provide direct treatment to everyone with comorbid disorders. A number of workshop participants indicated that a public health approach, incorporating schools, mental health literacy and self-identification and management, was necessary in respect to addressing comorbidity.

References

Calman KC (1994) The Ethics of allocation of scarce health resources. *Journal of Medical Ethics,* 20:71-74.

Bobadilla JL., Cowley P., Musgrave P., Saxenian H., (1994). Design, content and financing of an essential national package of health services. In CJ Murray, AD Lopez, editors. *Global comparative assessments in the health sector.* Geneva:World Health Organisation.

The impact of comorbidity on consumers

Ms Cin Mayii

Ms Mayii did not prepare a formal paper for the workshop. Her presentation raised the following issues:

- The perception of consumers by the community is often negative and mental health disorders are often viewed in terms of disability. Ms Mayii argued that the community should be encouraged to see these illnesses in a more positive light. It was suggested that educational campaigns should be undertaken to change the stigma and discrimination suffered by consumers.

- Ms Mayii urged policy makers to listen to consumers and understand the difficulties they face in negotiating a complex and unwieldy system. It was further suggested that bureaucrats, consumers and carers should make policies on services and other issues affecting consumers in equal partnership.

The impact of comorbidity on carers

Ms Meta Ransome

How do parents find the strength, to preserve our energy and our sanity in a chronic situation, in the effort to keep our children alive and out of gaol when we are struggling against a system that turn us away in times of crisis? We are talking about major stress, high maintenance and intensive care for families.

1 have four adult children. One son, who is chronologically 25 years old, has schizophrenia and has abused many drugs from early teenage years, including heroin dependency for three years. He has been maintained on methadone for the last 18 months and uses marijuana daily. 1 consider this more stable but still high maintenance financially and emotionally.

Trauma is the onset of psychosis. How do you convince a young person to see a psychiatrist or a.,ree to a psychiatric ward - impossible. The other option, as advised by a psychiatrist, is to call for police assistance to transport him to hospital. Many families have found this experience to be detrimental. I, at the time, thought 'good this stressful experience was necessary because now he is safe and receiving professional help'- wrong. Within a few days he was back on the street, angry with the family and distressed. The short-term psychiatric ward didn't have the answer.

Trauma is the crisis point: when he was mentally ill, heroin dependent, suicidal and loose on the streets, being refused admittance to a psychiatric ward because he was drug dependent and told 'that he had a choice', and refused at drug rehabilitation centres because of the mental illness. 1 know numerous families that have been desperate and help was refused. Is it any wonder that our overdose and suicide rate is so high! 1 have forcibly admitted him to hospital a number of times and question what it is that has been achieved. In a crisis, when we believe they are a high risk, intervention in the form of a mandatory facility is necessary, but please, we need an improved situation to work with, not one that has been exacerbated.

Trauma is finding a solution when faced with a life-and-death situation. 1 had to gain control of the heroin, which was spiralling out of control and heading down the crime road unless 1 intervened. My 'harm minimisation' was to 'do a deal' with him. 1 paid for the heroin on the condition that 1 kept it and metered out the doses. Gradually we were able to reduce it. What wouldn't a parent do to save their child?

Trauma is the ongoing financial support, some leading to severe financial distress, when families incur the debts to dealers who threaten their child and to unscrupulous hock shops. Not to mention legal fees!

Trauma is the experience impacting on siblings especially the younger ones. Many becoming horrendously disturbed. Which one do we sacrifice?

Trauma is the Criminal Justice System. This is a major stressor especially prior to a court appearance. 1 find it enormously frustrating and distressing when I have worked so hard to help him reach a stable day-to-day existence only to have ' him psychotic again because of this stressor. We need assistance before the situation becomes this dire. The prison system need never be an Option with early intervention.

The long-term outcome for this group of young people remains very bleak at this point in time. They don't have a place in the community. The community has not been prepared for them. Families will continue to be the ones at the coalface but we need support. Interventions such as proposed by Professor David Kavanagh in the Dual Diagnosis Consortium 1998 Report, funded by Queensland Health, are urgently needed to give us hope for a better future for our children.

The impact of comorbidity on carers: Workshop discussion

Ms Ransome highlighted the following issues in her presentation:

- The trauma of comorbidity is immense and affects the whole family unit, yet the health system cannot cope with the needs of carers and consumers. Services are often unavailable and the attitudes of many agencies is disparaging and humiliating.

- Greater effort and resources should be placed into early diagnosis and intervention. The point was made that often the trigger of attempts to access services is a crisis but, even then, consumers are often refused access. It was argued that this was often the case in very high-risk situations, such as threatened suicide. where there is a great need for a safe point of shelter and support.

- Young people with comorbidity often end up in gaol yet prison should not be an option. Rather, emphasis should be put into early intervention. Early intervention should be available in all schools and lead to identification and appropriate management of at risk children. Without changes, such as increased early intervention, young people at risk may never reach their potential, a terrible loss to the individuals, their carers, communities and society as a whole.

- As well as early intervention we need to examine the services available to consumers and carers in crisis. These crisis points often involve threatened suicide and may require mandatory facilities. Consumers and carers need to be informed about the services available.

Education was argued to be the main key to changing the attitudes of all those concerned; the consumer, their carers, service providers and the general community.

I just want some respect

(Creating a responsive service system for people with dual diagnosis and their families - issues for consumers and carers)

Ms Elizabeth Morgan

This paper was prepared as a background paper to the workshop but was not presented.

It is sometimes hard for service providers and health professionals to hear just how difficult the experiences of people with a dual diagnosis and their families are. One consumer describes the experience of being treated 'like just another drunk' by a mental health professional as one of the most devastating she'd encountered. She found support in her friends and through non government (NGO) providers.

A mother of a young man describes in detail her first encounter with a drug and alcohol service as one of extreme frustration and despair. Her son went on to commit suicide only a few weeks after she'd implored both service systems ' to treat her assessment of her son as very depressed and suicidal, as legitimate and well informed. He was 17, had been recently confirmed as having a dual diagnosis of schizophrenia and drug dependence. He was intelligent, articulate and very distressed. She was dismissed (or at least experienced it as such) as an over-protective mother who couldn't face her son's illness.

It is possibly tempting to dismiss these stories as the unique experiences of only one consumer or only one family. However it is more difficult to do that when the stories of consumers and of families or of carers begin to show a pattern of desperation, frustration, and a deep anger at the service system which is consistent and shared. The anger is often dismissed as 'understandable' in the face of a diagnosis for your child, which provokes grief and loss. That is not to say that consumers and families don't sometimes manage to create good relationships with the professionals and provider organisations that offer support. Many can identify workers or organisations that have been their only source of support or sanity through extraordinary circumstances and events.

Probably the most frustrating experience, which is described by consumers and families or carers, is the way in which the service system characterises the person with a dual diagnosis as the problem. This is expressed by the use of such labels as 'complex cases', 'multiple problems', multi-problem clients', 'intractable behaviour' or 'unmotivated' to describe or attribute the difficulties of providing services to people with a dual diagnosis and support to their families. Alternatively families are often characterised as 'over protective', 'unable to come to terms with their loss' or occasionally as 'controlling'.

Consumer and carer advocates dispute these characterisations and argue instead that the diagnosis rests at least partially with a fragmented and unresponsive service system; a problem of the system and not the diagnostic assessment of a dual diagnosis.

Consumers and carers are very articulate about how they diagnose system failure as a major contributing factor to meeting the needs of people with a dual diagnosis. They believe that the symptoms of system failure are very obvious and can be detected by careful observation and an honest appraisal of the health of the systems.

The symptoms they believe need to be addressed are as follows:

- The current administrative separation of service systems especially with respect to drug and alcohol, mental health and other disability services.
- This arbitrary separation is grounded in different cultural and professional approaches to particular diagnostic assessments. If you have a mental illness but present first at a drug and alcohol service the service orientation will be driven by a primary focus on your drug or alcohol dependence. Your mental illness will probably be seen as secondary and vice a versa. If you happen to have a physical disability or an acquired brain injury the possibility that the drug and alcohol professional understands the full implications of that will be very slim.

- Many consumers perceive worker attitudes to people with a dual diagnosis, especially drug and/or alcohol abuse and serious mental illness, as disrespectful and dismissive. Worker attitudes to families are also often experienced as dismissive or aloof.

- The service systems deal with families inappropriately. Very few have any real sense of the reality of the lives of families and carers who are usually the people left to 'pick up the pieces' after a service has released someone from hospital and not told their family, or refused to see someone when they present in an intoxicated or drugged state, or simply spent a couple of hours with that person and 'sent them on their way'.
- Families spend large amounts of time with very ill consumers and will often have a huge amount of knowledge about the patterns of daily life and the challenges facing consumers. The failure of the various service systems to actively engage with families in supporting and sometimes confronting consumers is a serious challenge.
- The specialist training of professionals working in different services does not equip them to deal with someone experiencing mental illness, drug and/or alcohol dependence, or other forms of illness or disabilities. Consumer and carer advocates argue that workers in the various service systems should be undertaking joint training and peer education activities which address diagnostic and assessment techniques. attitudes. shared case management and treatment approaches.

- Early intervention is critical and the service system is not seen as doing this well, at present. The reasons are many and at least some of the challenge for providers relates to heavy caseloads. However some of the challenge also rests in early assessment and more appropriate and shared interventions by the service systems. This includes improved coordination of medical and psychiatric interventions with social and community support.

The answers for consumers and families rest in a commitment of the various service systems to acknowledge their own state of poor health and to engage with consumers and families or carers to find other ways of working. Both consumers themselves and families or carers know only too well the challenges which services and professionals face in providing adequate and appropriate support and treatment. Some consumers and families are perplexed by a system that aims to encourage some sense of responsibility in consumers but fails to do so in its own backyard.

One consumer concluded by saying 'I know I'm not always easy to work with but 1 just want to be treated with some respect'. Respecting the knowledge someone has gained about their own illness and needs requires the professionals to relinquish their own belief that they are the 'experts'. A respectful system will hear the consistent messages coming from consumers and carers and find ways of finding shared answers.

The impact of comorbidity on services

Professor lan Webster

professor Webster did not prepare a formal paper for the workshop, however, the following issues were raised in his presentation:

- Current methods of diagnosing illnesses favor identifying acute illnesses, therefore these current methods do not fit well for chronic and comorbid illnesses. Individuals who have more than one illness have common contact with the system but their problems and difficulties become magnified, rather than alleviated.

- There are different philosophies, which guide the provision of services in mental health and drug and alcohol. In mental health people are treated as sick and assertively followed up. In drug and alcohol only people who are motivated and want to change can access services. These differences compound the problems faced by consumers within the health system. The linking of mental health and drug and alcohol would improve this current situation and provide the capacity to develop expertise on comorbidity within the system.

- With increasing comorbidity comes increased homelessness and social disadvantage. The services available to people with these problems should therefore reflect their needs and seek to redress this disadvantage. Early intervention should be in place to manage those individuals whose disorders present early in life.

Those who are most disabled use most of the services - it has been shown that 1 1 per cent of people use 25 per cent of hospital resources. A better use of resources would be to assist these people in the community with continued care. There is a need to plan for future longterm care and give easy re-entry to the system, based on the assumption that long-term engagement leads to better outcomes. Services, therefore, require long-term funding. Perhaps long-term care could involve general practitioners using shared care plans with nurses, prisons, schools etc - and help keep communication systems open between these professionals.

High staff turnover should be addressed -consumers get used to dealing with a particular health professional but then these professionals often leave the service. A mental health helpline for frontline professionals would provide vital support and help to address this problem.

The impact of comorbidity on general practice

Dr Rod MacQueen

The following two cases illustrate a number of issues relevant to comorbidity in general medical practice. The first involves common conditions leading to considerable morbidity in the community and seen commonly in general practice (see Australian Bureau of Statistics, 1998 data). Both cases are real though names and minor details have been changed for reasons of confidentiality. Discussion points are listed after each case.

Case 1:'Bill'

Bill, a 42 year old man, said his girlfriend had told him he 'needed some help'. He said his problem had cost him his first wife and family and several jobs, as well as causing much suffering and heartache over the years. The following story emerged.

When he was 16, Bill had been sitting on the lounge with his father watching TV when his father had suddenly clutched his chest, groaned and fallen over, dead. After a few weeks, Bill began to experience chest pain associated with feelings of unreality and of impending doom. He visited many hospitals and general practitioners around Sydney and remembers being given the message that either 'nothing is wrong' or that 'it is just anxiety'. It is possible that his anxiety problems were addressed but he certainly did not recall that ever having happened. Instead tests were administered and he was sent home. Occasionally he was admitted overnight but never more.

At the age of 20, Bill discovered that alcohol made these feelings go away. By that stage he regularly experienced shortness of breath, light headedness and a feeling of impending doom, particularly when facing stressful situations. With alcohol on board he felt 'quite normal'. Over the next 10 years he noted he needed more alcohol to produce the same sense of relaxation and he began to experience problems sleeping, wakening with a panicky sensation and with marked anxiety all day unless he had a few 'heart starters'. This led to disharmony in his marriage and he and his wife split. After a few periods of detoxification he discovered that Valium worked as well as the alcohol but with fewer side effects. Over the next few years he used Valium whenever possible but continued with alcohol on special occasions or when he could not obtain tablets.

Bill noted that whenever he stopped drinking or taking pills his symptoms worsened, and even after prolonged periods of abstinence he felt worse with increasing anxiety, shortness of breath and difficulty getting on with everyday activities. He had finally come to his current consultation, in a community psychosocial unit, because he heard we dealt with both alcohol and mental health problems and he knew 'it wasn't just the grog'.

The following points are raised:

- Does Bill have a serious health problem? Could it have been managed as well as a heart attack or pneumonia would have been? Twenty-six years on, are we more or less likely to manage this problem well?
- Bill had access to health care facilities but his quality of life declined. Why is this? Does the health care sector manage only physical health? Is mental health only all those things left over when 'real' physical health problems are excluded?
- As we develop more diagnostic devices are we more or less likely to take seriously issues such as anxiety and alcohol problems?
- With the average length of stay in a teaching hospital now 3.5 days with the focus on single issue management, is this the best training environment for future general practitioners who will see increasing comorbidity?

- If a general practitioner or hospital doctor had made the correct diagnosis, could Bill then have been treated as professionally and routinely as if he had a heart attack or pneumonia? Has this likelihood increased or decreased over the years?

The second case concerns a less common mental health problem but one seen with increasing frequency in general practice with the downsizing of mental health hospitals and the use of more effective anti-psychotic medication.

Case 2:John'

John, a 20-year-old student, was brought in by his mother and sister. He had been acting strangely and they felt he had been smoking too much cannabis. John was sleeping much of the day, waking up singing or talking to unseen people, neglecting showering and changing his clothes and forgetting to eat. He had become restless at night and wandered aimlessly around the neighbourhood. His university grades had fallen progressively over two years. He had visited a few general practitioners and hospitals but was reluctant to discuss both his cannabis use and his mental distress.

He worried that he was mad and that it might relate to cannabis use, though he kept smoking. John was physically reasonably well but mental examination revealed many psychotic features. He said cannabis helped him sleep although it did not do much for the voices that often tormented him, particularly at night. He received in-patient treatment with a diagnosis of schizophrenia, and remains remarkably improved on a new anti-psychotic today, still smoking but less often. There was much debate over the role of cannabis and future management.

The following points are raised:

- What should we be telling people about the relationship between cannabis and mental health? Do scare tactics achieve anything?

- John felt guilty about smoking, worried about the cost and possible effects. Later he

preferred to see himself as a dope smoker rather than as 'mad' and talked about cannabis whenever he saw any health professionals. Is the continued illegality of this drug and the consequent misinformation, anxiety and high price likely to help people like John or his advisers?

Lack of good information about cannabis causes people to be scared. It does not stop them smoking and our incidence is rising (Australian Institute of Health and Welfare. (1999)). If it stops people honestly discussing drug use with doctors, family and friends, how does this help?

Should John have been admitted for in-patient diagnosis and management earlier? Would the prevention of his psychosocial disintegration have been possible?

Is cannabis use likely to worsen John's outcome? Has John become dependent and if so does that create problems? Does the cost of the drug have an impact? What is the risk of entering the criminal justice system rather than being managed through the health care

system and is this likely to be helpful? Is this likely to be the best use of the taxpayer's dollar?

Is it appropriate to demand that John remain drug free? Does that include no alcohol, no

coffee and no cigarettes? Or just no cannabis? If he uses cannabis is he then disqualified from professional health care?

Addressing future considerations

What needs to start happening?

Clearly, mental health and alcohol and drug problems need to be taught and managed through the same systems and services as the rest of health care. They are no more an optional extra than is diabetes or asthma management.

What needs to stop happening?

Fragmentation of care and funding into discrete bits and management of 'health' as a consumer product, with general practitioners as 'health supermarket' operators, will not help in this field: five minute consultations will not help. The fascination with technical interventions (eg 'I woke up, cured of heroin') and the down-playing of experience and interpersonal skills must be redressed.

In the year 2005 where should we be?

Simply, in a situation where the knowledge, attitudes, skills and systems allow these common problems to be dealt with as professionally and easily as are diabetes or asthma. This is <u>not</u> as easy as it sounds.

What are three critical barriers which need to be overcome to get there.?

- The lack of under- and post-graduate training in alcohol and drug matters, and the lack of role models, mentors and a career path for those who are involved.

- The lack of accountability for poor services in both fields, particularly alcohol and drugs. Those with comorbid problems are not aliens, they are us (MacQueen, 2000).
- The lack of maturity and compassion which allows the marginalisation of our own citizens as aliens and demons and inures us to their suffering is possibly understandable in the community but unacceptable amongst those working in health care.

References

Australian Bureau of Statistics 1998, *National Survey of Mental Health and Wellbeing ofadults: Users'Guide*, ABS, Canberra.

Australian Institute of Health and Welfare. (1999) *1998 National Strategy Household Survey: First results*, Canberra: Australian Institute of Health and Welfare (Drug Statistics Series).

MacQueen, A.R. 2000, 'Drug and alcohol use as normal behaviour', *Australian Family Physician*, vol:29, page 13-15.

The impact of comorbidity on general practice: Workshop discussion

Dr MacQueen raised the following additional issues in his presentation:

- General practitioners see most individuals with mental health and alcohol and drug problems. This is because they are easily accessible professionals who are expected to manage a range of issues and the logically appropriate professionals to detect and manage individuals with this type of comorbidity.

There should be no problems with identifying and managing individuals with this comorbidity but general practitioners are not doing it. Why? Because at every level mental health and drug and alcohol is treated differently to the management of physical disorders.

There are a range of problems associated with addressing this type of comorbidity in general practice; little training in relevant mental health problems; no training in alcohol and drugs. There is, however, 'routine training' in physical specialties, such as cardiology and neurology. There are no role models or mentors, no career paths or specialist support for general, practitioners who manage people with this type of comorbidity.

Even when general practitioners are keen to address these problems, lack of time and money are barriers. Most consultations are short and society looks for a quick fix. There is no training and support or relevant tools and techniques to use in detecting and managing people with these problems.

Finally, comorbidity can be managed in general practice. It is often easy, these are common problems for which management exists and outcomes are often very good, even in psychosis and illicit drug use. There is, however, a major block of work to be done to address the barriers general practitioners face in providing appropriate services to these people.

Both drug and alcohol and mental health professionals provide excellent services and it is now time to market these services to general practitioners in order to address the discrimination individuals with these problems face.

Potential for innovative prevention strategies

(The comorbidity of substance use and emotional disorders)

Professor Mark R Dadds

Executive summary

Having emotional problems (that is, anxiety and depression) is associated with at least a threefold increase in lifetime incidence of substance use disorder.

In most cases, the risk increases because substance use becomes a method of 'self-medication' to alleviate the anxious-depressive symptoms.

The critical period for developing emotional and substance use disorder problems is from late childhood through adolescence.

Longitudinal studies show two clear pathways:

- anxiety problems in late childhood lead to depression in adolescence, and both then contribute to early onset and persistence of substance use disorders; and
- conduct problems in childhood and adolescence predict early onset substance use disorders and the presence of comorbid anxiety and depression facilitates this risk.

Thus, there is enormous potential for population reductions in substance use disorders by targeting their comorbidity with emotional and behavioural disorders.

Recent large-scale trials in Australia and the United States have shown that brief school-based skills training programs can reduce the incidence of emotional and behavioural problems in preadolescent and adolescent populations. These programs are designed to increase social competence and improve skills for managing psychological health. Importantly, many of the same skills have been shown to be effective in treating substance use disorders.

No study has as yet assessed whether these early intervention programs for emotional problems do actually reduce the incidence of substance use disorders through adolescence, however, it seems highly likely they would.

Thus, a priority for research should be a large-scale randomised controlled trial of the effects of early intervention for anxiety and depression on development of substance use disorders through adolescence.

Introduction: Aims and definitions

The aim of this paper is to attempt to answer the following question: Can prevention and early interventions for emotional problems in young people hold promise for reducing the incidence of substance use disorders in our community?

Substance use disorders will be used to refer to both alcohol and drug abuse, unless the point under discussion refers to one or the other specifically.

Internalising disorders will be used to refer to the cluster of emotional disorders characterised by negative affectivity and including the depressive disorders of major depressive episode and dysphemia, and the anxiety disorders of generalised anxiety disorder, panic and agoraphobia, social and simple phobias, obsessive compulsive disorder and post-traumatic stress disorder.

The depressive and anxiety disorders show high rates of comorbidity within and between each other, leading many researchers and clinicians to consider them as a general class (eg negative affectivity, neuroticism or internalising disorders). Much of the research reviewed has used samples with sub-clinical problems rather than diagnosed disorders. Given this and the inherent arbitrariness of the cut-off between problem and disorder, the term 'disorder' will be used loosely

to refer to a broad range of identified problems (including explicitly diagnosed disorders) unless otherwise specified.

The comorbidity of substance use and internalising disorders

Data from clinical samples point to a high overlap between substance use disorder and internalising disorders, independent of whether the referred problem is substance use disorder (Reiger et al., 1990) or internalising disorders (Bibb and Chambless, 1986). However, the frequency and nature of this comorbidity can be highly variable in substance use disorder groups, ranging from acute internalising disorders at referral that appear secondary to the substance use disorder and quickly remit in treatment, leaving the 'pure' substance use disorder problem to run its course, to longstanding internalising disorders that may underlie the substance use disorder problems.

Contamination by referral issues thus makes clinical studies unsuitable for obtaining community estimates of the comorbidity between substance use disorder and internalising disorders and researchers must turn to epidemiological studies. Two of the most up-to-date and comprehensive of these are the Epidemiological Catchment Area survey (Rei-er et al., 1990) and the National Comorbidity Survey in the United States (Kessler et al., 1994). These were consistent in showing that the lifetime comorbidity odds-ratio of having both an internalising disorder and a substance use disorder ranged from approximately 2.5 to 3.5. Thus, one has approximately three times the chance of suffering a substance use disorder if one has an internalising disorder, and vice versa, compared to a

disorder-free person. These odds-ratios are means collapsed across specific internalising disorders and substance use disorders. They would be considerably higher if calculated according to the presence of any type of internalising disorder, and may be higher for social phobia and panic or depression in particular. There thus exists, depending on the nature of the causal links between them, an opportunity for joint preventative efforts.

Alternative causal models of the comorbidity of substance use disorder and internalising disorders

Kessler and Price (1 993) propose four causal links between comorbid disorders, each of which has implications for the design of joint preventative efforts. They are:

- One type of disorder may lead directly to another. Thus, the abuse of certain drugs (cocaine, psychostimulants) can directly produce panic symptoms. For the purposes of this

  paper, it is difficult to conceive of internalising disorders directly causing substance use disorders.

- Comorbidity can occur due to indirect effects of one disorder on another. Thus, social fears may lead directly to the use of drugs as a self-medication strategy. While evidence in this regard is limited to descriptive clinical studies, it is highly likely that this direct path is characteristic of a substantial proportion of substance use disorder sufferers. However, the, reverse has been noted, whereby substance use disorder exacerbates anxiety and depression. at least in the short term.

- one disorder may be associated with contexts that potentiate the likelihood of another. Thus, conduct disorder may lead to exposure to deviant peer groups that increase risk for substance use disorder Depression may lead to an erosion of social networks that potentiates isolation and thus solitary drug taking.

- Comorbid conditions may share common causes. Recent research has demonstrated that generalised anxiety and depression share a genetic vulnerability.

Clearly, Kessler and Price's model reflects a putative structure that is unlikely to be so distinctive in reality. Thus, two comorbid disorders may share some common causal variables, as well as having indirect effects on each other, and influencing contexts that serve to exacerbate or diminish the other disorder. Further, their model has very different implications at clinical versus population or epidemiological levels. Patterns of inter-causality will differ from person to person, and clinicians have long been in the habit of sorting out the causal sequences of anxiety, depression, and substance abuse as a treatment guide to working with the individual client. At the population level, and thus with regard to preventative interventions aimed at large populations, any one causal pathway will explain only part of the variance in comorbidity. However, this may be enough to justify its influence on the design of large-scale community interventions.

Few studies have been reported that were specifically designed to look at developmental causal sequences linking internalising disorders and substance use disorders. However, of those reported, the results have been decidedly consistent. Catalano and colleagues, (1996) showed that a 'social development' model that emphasises social competence through late childhood and adolescence was the best predictor of substance use disorder in the late teen years. Data from New Zealand show that for males, depressive symptoms at age 1 1 are predictive of multiple drug use at age 15, even after controlling for concurrent conduct problems (Henry et al., 1993). For females, no relationship between early symptomatology and later substance use was found, however, 'self-medication' in females at age 15 was associated with concurrent conduct problems and depressive symptoms.

Recent analyses of data from the Pittsburgh Youth Study looked at predictors of persistent substance use in adolescence. Results showed that delinquency was the best predictor of persistent substance use, however, the combination of delinquency and internalising disorders characterised many of the persistent substance use problems (Loeber et al., 1999). Similarly, Riggs and colleagues (1999) showed that a combination of depressive symptoms and attention deficit problems contributed to the severity of nicotine dependence in adolescence. Overall, these studies indicate that both internalising and externalising problems in preadolescence are important predictors of later substance use disorders.

Much indirect evidence also bears on this issue. First, apart from transient internalising disorders directly resulting from the use of specific substances, internalising disorders tend to precede substance use disorders developmentally. Second, in terms of comorbidity within internalising disorders, several studies have shown that anxiety problems typically precede and are risk factors for depressive disorders, however, the reverse has not been found (Angst, Voolrath, Merikangas, & Herst, 1990; Cole et al., 1998; Hagnell & Grasbeck, 1990). Third, anxiety disorders and their early signs can be identified in childhood and many emerge as clear disorders in late childhood and early adolescence. Depression is relatively rare before middle adolescence and shares its initial onset period with substance use disorder, that is, in the teen years.

Thus, it is likely that a history of anxiety disorders, depression, and then substance use disorder represents one pathway to substance use disorder that characterises many substance use disorder sufferers. Thus, early intervention for internalising disorders, in particular, the early signs of anxiety problems may hold potential for reducing substance use disorders in the community.

This stands in contrast to the pathway to substance use disorders coming through conduct and attention deficit problems, high sensation seeking, and social adversity that have been so commonly recognised in tile literature. It is likely that alternative pathways to substance use disorders through internalising disorders, on the one hand, and externalising problems on the other, are in fact interweaving. Recent research has shown that anxiety and depression may feature in externalising problems in young people far more significantly than has been traditionally acknowledged. Measures of attention deficit, for example, are highly confounded by the presence of anxiety problems (Perrin and Last, 1992), and internalising problems can enhance externalising problems through adolescence (Loeber et al., 1994). The longitudinal studies, reported above, that simultaneously considered early internalising disorders and externalising problems as predictors of later substance use disorders show that they interact and magnify each other's influence on later substance use.

Prevalence of anxiety and related depressive disorders in young people

This section aims to demonstrate how a developmental model of internalising disorders can be used to inform preventative and early intervention strategies. Following this, empirical evidence for preventative effects will be reviewed within the structure provided by the developmental model.

Despite the clinical salience of childhood externalising problems, epidemiological studies using child reports indicate that anxiety disorders are the most common behavioural/emotional disorder through childhood and adolescence (Bernstein and Borchardt, 1991; Kashani and Orvaschel, 1990). In Australia, a school-based recruitment study showed that anxiety problems exceeded externalising problems in 7-14 year olds using either self-report or teacher nomination measures (Dadds, Spence, Holland, Barrett and Laurens, 1997). The modal onset of most anxiety disorders is in middle childhood to adolescence (panic and agoraphobic states generally begin later), however, research has confirmed that early temperamental characteristics can be identified in infancy that are predictive of later anxiety problems (see below). Although many children appear to 'grow out of' their anxiety problems, others maintain some anxiety diagnosis into adolescence or adulthood. Anxiety problems are more common in females, irrespective of age. Generally, the prevalence of anxiety disorders is similar in children, adolescents and adults, although their presentation may change with age (Costello and Angold, 1995).

Prospective studies of DSM~IV which defined anxiety or depressive disorders in adolescents noted that most adult disorders were preceded by adolescent disorders (Pine et al., 1998). Typically the evidence converges to show that anxious children are of higher risk for other affective disorders, especially depression (Beidel and Turner, 1997; Cole et al., 1998). Interestingly, the reverse of childhood depression leading to later anxiety was not found. These research findings indicate that early childhood through to adolescence is perhaps the most promising time for targeting prevention programs for anxiety problems and internalising disorders in general.

Risk and protective factors for internalising problems

A summary of the risk and protective factors for anxiety during early childhood, middle childhood, and adolescence are outlined in Table 1, together with a broad comment on the strength of evidence in support of the causal significance of each.

The most salient factors emerging in the literature are temperamental predispositions to be shy and fearful of novel people, objects, or situations (behaviour inhibition or reticence), the existence of parental anxiety or depressive problems, and exposure to traumatic environmental events. Secure attachment, an easy temperament, and social skills stand out as ongoing protective mechanisms. From a public health perspective, many factors converge to influence the trajectory of anxiety disorders.

Table 1: **Developmentad risk for anxiety disorders and associated retention**

Risk factor	Protective factor	Developmental occurrence	Evidence
Temperamental dispositions • behavioural inhibition • shyness and reticence • disgust sensitivity	Temperamental dispositions • Copes with novelty • Sociability	Infancy onwards	Strong. Longitudinal studies
Parental psychopathology	Parental health	Non-specific	Strong. Longitudinal studies
Parenting practices d) insecure attachment e) high protectiveness, restriction and control f)selective attention to threat and modelling of avoidance	Parenting practices • secure attachment • encouragement of independence and exposure to novelty • modelling of attention to positives and prosocial coping	Infancy onwards	Moderate: Mostly cross sectional studies. Shown to interact with temperament in longitudinal studies
Exposure to aversives: • bullying and peer rejection • traumatic experiences • learning problems and school failure	Protection from aversives: • prosocial school experiences • absence of trauma • school success	Childhood onwards	Moderate: Mostly retrospective and cross-sectional studies

Prevention could target any or all of these variables, leading to multifactorial models of program development. However, a more parsimonious and ultimately efficacious perspective may highlight specific mechanisms associated with the onset and maintenance of internalising disorders that switch in and out at various points in the person's life. Models of prevention need to focus on such windows of opportunity.

Prevention strategies

Preventative interventions are categorised by either of two common systems.

The traditional model

The traditional model examines prevention from the perspective of onset of disorder (Caplan, 1964) . In this model, prevention can be implemented at three levels. The first level, **primary Prevention,** intercedes before the onset of disorder to reduce the likelihood of the person developing psychopathology. **Secondary prevention** is implemented once problems have been identified, but before these problems become severe. Finally, **tertiary prevention** involves treatment of current disorders with the aim of shortening the duration of the disorder and also preventing relapse.

A second, and subsequent, model organises prevention initiatives based upon sample catchment boundaries (Mrazek and Haggerty, 1994). Within this model, a prevention program aimed at reaching a broad section of the community and applied to all individuals is considered a **universal** prevention program. An example would be a parent program to improve coping skills in parents and children. Alternatively an **indicated** prevention specifically targets individuals who are at high risk for a disorder, such as anxiety. A child who is behaviourally inhibited could be considered 'at-risk' for anxiety. And a **selected** prevention program targets people who are considered to be high-risk status based upon group membership, rather than individual characteristics. With respect to anxiety, this could include individuals who have been exposed to a natural disaster. This review will discuss programs in terms of universal, indicated and selected prevention as, at present, this is the most widely used model.

Universal prevention programs

There are advantages and disadvantages associated with using different types of intervention.

An advantage of universal programs is that no selection procedures are needed and thus stigmatisation is unlikely to result. However, such programs are likely to be more expensive from both a financial and a human resource perspective. Importantly, and of ethical concern, without careful and thoughtful design a universal program risks the possibility of doing harm to healthy people.

Shochet and O'Gorman (1995) have argued that a guiding principle of any intervention must be to quarantine harm. Especially in initial trials when outcomes of prevention initiatives remain uncertain, it is imperative that above all people are not worse off as a result of participating in the program. For example, concern is often expressed about possible iatrogenic effects of suicide prevention programs when applied universally to young people.

Indicated and selected prevention programs

Indicated or selected programs target those individuals most likely to be in need of assistance, thus optimising the use of financial and human resources. Additionally, indicated or selected programs increase the probability of identifying and intervening with individuals who otherwise may have gone unnoticed and progressed to a more severe level of dysfunction. Within some contexts, indicated and

selected programs are ten-ned 'early intervention' especially if some level of dysfunction already exists within the sample. However, the selection procedures associated with selected and indicated programs carry the risk of stigmatising or labelling individuals.

Simeonsson (1994) has formulated a number of criteria for developing preventions, beginning with clear understanding of risk, protective factors, and characteristics of the targeted population. These factors inform the formulation of the prevention program. The design of choice is a randomised-controlled trial within a longitudinal study.

Finally, adequate monitoring of the implementation and evaluation of the outcomes of the prevention provide a guide for future development.

Windows of opportunity: outcome studies in preventing anxiety disorders

From a developmental perspective, there are likely to be optimum times and optimum methods for taking preventative action, an area that will eventually become clearer as further prevention studies are evaluated longitudinally. At this stage, although prevention has been receiving

increasing exposure in the literature, the number of controlled, longitudinal studies is decidedly small.

Early childhood

in the realm of family and temperament risk factors, infancy and early childhood are ideal points of prevention. One of the obstacles to determining the effectiveness of preventative efforts within this young age group is the lack of established assessment criteria within this young age group that are suitable for use at the community level. Additionally, many of the cognitive-restructuring aspects of reducing anxiety are beyond the cognitive capacities of children in this age group, and adult modelling and shaping is the primary avenue of protection. Thus, for infants and preschoolers, the best treatment approach is working with parents (Bemstein and Borchstadt, 1996). Knowledge of developmental needs, including differences in temperament, parental support, fostering secure attachment, and parental acquisition/modelling of coping strategies are broad areas of prevention. These strategies provide opportunities for parents to learn patterns of interaction that support children's wellbeing, as well as skills to manage parental stress.

LaFreniere and Capuano (1997) implemented a six-month intensive home-based indicated prevention program for mothers and preschoolers. This project offered information on child development, including booklets on development, behaviour, security, the body, and parental needs. Additional sessions were provided to address core skills in parenting, as well as any additional personal or parental concerns in order to alleviate stress within the parent-child relationship. Finally, parents were helped to build a social support network. At the conclusion of the program, preschoolers teachers had assessed as anxious and withdrawn showed significant gains in social competence, but reductions in anxious withdrawn behaviour only approached sic,nificance. Parenting stress in the intervention group did not show a significant reduction relative to controls, although a subjective positive bias was noted in mothers who participated in the intervention.

A parent-teacher universal prevention program for children aged four to five years, aimed at reducing the incidence of internalising disorders later in childhood, is currently being evaluated in Brisbane, Australia (Roth and Dadds, 1999). The project is a large-scale community project that seeks to identify children at risk in this young age group, and determine the short- and longterm effects of a prevention program through a controlled trial. Entitled, REACH for Resilience, the program aims to teach parents and teachers strategies and ways of thinking that can increase children's ability to cope with challenges, especially through adult modelling of these strategies and encouragement of children's efforts.

At this stage, the empirical evidence is inconclusive regarding optimal prevention of anxiety disorders in early childhood. Thus, it would be drawing a very long bow to argue, at this stage, that such interventions could potentially reduce the incidence of substance use disorder in later life. However, drawing from the literature on resilience (Cowen et al., 1996; 1997;), the experience of a positive and continuing relationship with a care giver seems to be a major factor influencing resilient versus non-resilient children (Wemer, 1993). Secondly, children's temperament (easily soothed, low emotionality, sociable) tends to elicit positive responses from adults as well as children, thereby helping develop social competence (Fox & Calkins, 1993). Thirdly, an internal locus of control (having a sense of influence over life's events) was more evident in resilient children, and can be supported by age-appropriate problem-solving strategies (Wyman et al., 1993; Shure, 1997). And, fourthly, an optimistic outlook predicted socioemotional adjustment and a stronger internal locus of control (Wyman, et al., 1993). Thus, pre
necessary to:

- develop efficacious and effective programs;
- discover the specific factors necessary and sufficient to prevent the onset of anxiety disorder and build resilience; and
- track the effectiveness of these strategies over time.

Middle Childhood

Middle childhood appears to be an especially advantageous time for anxiety prevention and early intervention. Developmentally, this is the time when most anxiety disorders emerge, and these have been shown to be predictive of adolescent depression (Cole et al., 1998). As children's cognitive abilities mature, cognitive restructuring techniques are able to be utilised in helping atrisk children change the meaning of aversive events and experiences. This is especially important because the impact of stressful events appears to be largely mediated by that individual's evaluation of the event in relation to their wellbeing. Dadds, Barrett, and Cobham (1997) suggest that intervention with,parents is especially important with younger age groups of children, whereas for older children the cognitive work and exposure may be sufficient. A further advantage for this age group is that self-report measures are reliable and valid tools of assessment, although it is still imperative to seek information from multiple sources due to possible bias in anxious children to portray themselves in a socially-desirable light. Using teacher nominations in conjunction with children's self-reports seems most efficacious, as each method taps different types of anxiety problems, yet structured interviews support the validity of each method (Dadds et al., 1997).

Only recently have controlled clinical trials with children diagnosed with anxiety disorders been reported. The programs included individual cognitive work to reduce threat appraisal, exposure, and enhancement of parental communication and child-rearing skills. The results are impressive with improvement maintained in 60 per cent to 90 per cent overall in the controlled trials. Although these studies were treatment not prevention studies, they are worth considering in some

detail due to their important implications for design and implementation of anxiety prevention and early intervention,

Kendall and his colleagues conducted two controlled treatment studies for children with a primary anxiety disorder diagnosis (Kendall, 1994; Kendall et al., 1997) The studies consisting of 16 to 20 cognitive restructuring technique sessions for the children. In the first controlled trial *(N* = 47) over 60 per cent of the treatment group no longer met criteria for an anxiety disorder, and these gains were maintained at one-year follow-up. Kendall's second randomised clinical trial (N = 94) replicated his earlier study with very similar results. Over 50 per cent of children no longer retained their primary anxiety disorder post treatment (with significant reduction in severity for others), compared to only 6 per cent (N = 2) in the waitlisted group. Effects were not modified by comorbidity, gender or ethnicity. Periodic assessments of treatment gains suggested that psychoeducation (eight weeks) alone was not sufficient treatment, but when followed by active exposure (eight weeks), these two segments together created significant reductions in anxiety disorders.

A similar treatment program (12 sessions) which involved parents as well as children was found to be superior to one which involved only children (Barrett, Dadds and Rapee, 1996). Treatment gains in the child and parent treatment group increased from 84 per cent of children no longer meeting criteria for anxiety disorder at post treatment, to 95 per cent of children at 12-month follow-up. The child-only treatment group showed no-diagnosis status increases from 57 per cent at post treatment to 70 per cent at 12-month follow-up. In a subsequent study (Dadds et al, 1999) no differences were observed between the child treatment or the child + parent treatment if only the child was anxious. However, a very different outcome resulted when **both** the child and the parent were anxious. In this condition, treatment gains were significantly less in the child treatment than in the child + parent treatment, yet this difference was reduced to a trend at sixand 12-month follow-ups. This intervention has been shown to have similar outcomes when presented in group format (Barrett, 1999; Cobham et al., 1999).

A selected prevention project targeted children (N.= 1 786) aged seven to fourteen in Brisbane, Australia (Dadds et al., 1997). Inclusion in the project ranged from children who were exhibiting mild anxious features, but remained disorder free, to those who were in the less severe range of a

DSM-IV anxiety disorder. An intensive screening process incorporated parent, child and teacher reports, telephone calls and face-to-face interviews. Children with:

- disruptive behaviours (impulsive, aggressive, hyperactive, non-compliant),
- lack of English as a first language in the home,
- developmental delay or other problem,
- no anxiety problem according to teacher reports, and
- invalid child reports (ticked 'yes' to all items)

were excluded from the sample. The final sample consisted of 128 children. Any child with severe symptoms or whose parents requested individual help for their child's anxiety were referred for individual treatment and no longer included in follow-up assessments.

The intervention was based on an adaptation of Kendall's Coping Cat Workbook, a 10-session program presented in group format for teaching children strategies to cope with anxiety. The sessions were conducted weekly for one hour at the child's school, in groups of five to twelve children. In addition, parents periodically attended three sessions covering:

- child management skills,
- modelling and encouraging the strategies children were learning through the Coping Koala Prevention Program (Barrett et al., 1994), and
- how to use Kendall's FEAR plan to manage their own anxiety.

The monitoring group received no intervention, but were contacted at planned intervals for follow-up assessments.

Interestingly, at post-intervention no significant differences were found between the monitoring and the intervention groups. Yet, at six months follow-up, the intervention group showed a significant reduction in the onset of disorder (16 per cent onset), relative to the monitored group (54 per cent onset). Most importantly, the success of their program in reducing the existing rate of anxiety disorder and preventing the onset of new anxiety disorders was successfully maintained at a two-year follow-up (Dadds et al., 1999). These results are very promising. Given that over half the at-risk children in the monitoring group progressed from mild anxious symptoms into a full-blown anxiety disorder, middle childhood and early adolescence appear to provide an important 'window of opportunity' for prevention initiatives.

The Primary Mental Health Project (Cicchetti et al., 1996) also targets primary school children who have been identified as having social, emotional, and learning difficulties. The core intervention is establishment of a supportive relationship between the child and a trained paraprofessional. A series of evaluations have supported the effectiveness of the program in reducing internalising disorders.

When conducting an indicated prevention, such as described above, an important ethical caveat surrounds the potential to negatively label children who are deemed 'at-risk,, and thus raise concern in parents as well as stigmatising children amongst their school peers. The Queensland project surmounted this dilemma by describing the intervention as 'a positive skill building

experience', and the monitoring group provided 'an information gathering/leaming exercise for researchers'.

Programs that build social skills in primary school children without necessarily focussing on internalising disorders have also been shown to reduce internalising disorder symptoms in a range of studies using universal, deaf, and behaviourally at-risk students (eg the PATHS program: Greenberg et al., in press).

Thus, successful prevention or early intervention and treatment in middle childhood has been achieved with regard to anxiety disorders and symptoms. Studies have been able to demonstrate long-term improvements for children up to two years Post-intervention. The long-term success of these interventions has clear implications for a concomitant reduction in community costs and family distress. None of the above studies took measures of substance use disorders at follow-up. However, it is reasonable to speculate that these interventions have some potential for reducing the incidence of depression and substance use disorders in the adolescent years.

Adolescence

Prevention of anxiety in adolescence has received limited attention, although it should be noted that the Barrett, Dadds, and Kendall treatment and prevention studies all included chi d n up to 14 years in their successful reductions in anxiety disorders. Stress inoculation training programs, which use a similar intervention to the anxiety treatments, have been shown to reduce anxious symptomology in universal adolescent samples (Kiselica, Baker, Thomas and Reedy, 1994) as well as children evaluated to be at-risk due to family breakdown (Pedro-Carroll, Alpert-Gillis and Cowen, 1992).

In later adolescence, the pressing nature Of such life-threatening issues as depression, suicide, drug and alcohol use, or safe sex Practices come to the forefront. With respect to internalising problems, prevention of depression has gained prominence in research investigations.

To date, one of the most successful programs for reduction of depressive symptoms in young people has been the Pennsylvania Depression Program for adolescents aged 10 to 13 years (Jaycox et al., 1994). The study included three separate programs focusing on teaching:

- cognitive skills,
- social problem solving skills, and
- a combination of cognitive and social problem solving skills.

Training in assertiveness, negotiation and coping skills were also included. After finding no significant difference between the three intervention modalities, the groups were combined, resulting in a treatment sample of 69 participants and a wait-list control group of 74. Significant improvements in depressive symptoms were obtained for the intervention group compared to controls at post-testing, six-month follow-up, and two-year follow-up (Gillham et al., 1994). This innovative study indicates that psychoeducational prevention efforts to build resilience to depression seem promising during early adolescence. A limitation of the study was the possible biasing effect of a self-selected sample in conjunction with the low initial recruitment rate (between 13 per cent and 19 per cent) and a high attrition rate (30 per cent).

In a second innovative study, using an adaptation of Lewinson, Clarke, Hops and Andrews' (1990) tertiary treatment approach, Clarke and his colleagues (1995) reported a significant improvements in depression for an indicated intervention group compared to wait-list for 14 to 15 year old adolescents. The program was more successful than Jaycox et al (1994) at recruiting adolescents, however, it still only succeeded in engaging less than 50 per cent of the adolescents identified at being at risk for depression. There was also a reasonably high attrition rate, particularly in the intervention group (21 out of 76). In another indicated trial, Hains and Ellman (1994) reported Positive results for their program which consisted of problem solving, cognitive restructuring, and anxiety management, reducing depression scores in volunteer adolescents who had been classified as having high arousal levels. These authors also experienced difficulty with possible self-selection bias.

Beardslee and colleagues (Beardslec, 1989; Beardslee et al., 1992; 1993; Beardslee and MacMillan, 1993) evaluated a selective program for adolescents and parents, where one or both parents had a major affective disorder, often in combination with other serious psychiatric disorders. The authors used family therapy and psychoeducational approaches to help families develop a shared perspective on the depressive illness, and to change parents' behaviour in relation to their children. In a randomised tidal of 20 families, parents who received faniily-based interventions reported significantly more improvements in behaviour and attitudes than that of parents who received information alone. Recruitment was conducted through Medical Health Fund advertising, so no information is available regarding recruitment rates and self-selection processes.

These studies Provide evidence for the usefulness of selective and indicated prevention programs. They also highlight the well-known difficulties associated with recruitment and retention of adolescents. To the adolescent, such programs could be seen to risk being singled out from the peer group at an age when peer group acceptance is especially important. This problem might be substantially reduced if intervention programs for adolescent depression could be implemented routinely as part of the school curriculum, as either an alternative or complement to indicated programs.

In Australia, the Resourceful Adolescent Program (RAP: Shochet et al., 1997a; b) was developed to meet this need. It consists of components for adolescents (RA-P-A) and their families (RAP-F). The RAP-A is a fully manualised 10-week group treatment run in groups of approximately eight to 10 participants per group that focus on building resilience in adolescence as a way of preventing depression. Given its universal delivery, participation rates approach 100 per cent for the adolescents although recruitment of families has remained a problem. Early resorts from controlled trials indicate it is associated with reductions in self-reported depression, especially for adolescents with preexisting depression at pre-treatment (Shochet et al., in press).

Thus, the evidence from adolescent groups is consistent with that from younger groups, supporting the efficacy of psychological skills building programs to reduce the incidence of internalising disorders in young people. The content of the anxiety prevention and depression prevention programs tend to be very similar, and include core foci on cognitive skills, emotion regulation, dealing with challenges, and social problem-solving skills. However, none of these studies specifically measures substance use disorders as outcomes and so their effect in that regard remains unknown.

Specific evidence for preventing substance use

disorders by intervening to reduce internalising disorders

No studies could be found that explicitly tested whether substance use disorders could be reduced by intervening to reduce internalising disorders in young people. However, indirect evidence can be found that helps inform the area. First, it should be noted that many schoolbased studies exist that tried to directly change adolescents' drug behaviour by training them in drug-related social skills (eg saying 'no', managing stress without drugs). While many have reported positive short-term benefits, overall the success rate is not impressive (Gorman, 1996).

Second, the vast majority of substance use disorder prevention studies for adolescents have focussed on externalising and social adversity risk factors. Several programs of research have now shown that reductions in externalising disorders can be effectively produced by providing skills building programs for the child, his or her family, and the school environment, through the primary school years (see Greenberg et al., in press). Several of these studies have shown effective reductions in substance use disorders after targeting externalising behaviour (eg the Anger Coping Program: Lochman, 1992; Big Brother/Sister: Tierney, Grossman and Resch, 1995).

Third. there a several studies in which promotion of general resilience in primary school children has been shown to reduce substance use into adolescence. For example, Schinke and Tepavac decision (1995) showed that a universal school-based intervention that focuses on personal and social -making and assertiveness skills, reduced actual and Potential substance use in eight to eleven year olds. The Seattle Social Development Project is a universal program that combines parent and teacher training throughout the primary school years. Controlled trials have compared early versus late scheduling of the intervention in large samples. Secondary school intervention was not effective, however, the early intervention model (that is, targeting social competence in the primary school years and continuing across developmental phases) has been shown to effectively reduce substance use disorders at 18 years of age (Hawkins et al., in press). Similarly, a number of well-designed studies that have targeted improved parent-child relationships have shown positive long-term benefits in terms of reductions or delays in drug taking (eg Kosterman et al., 1997).

The overlap in skills focus between this program and those aiming to reduce internalising disorders is notable, as is their demonstrable positive outcomes, encouraging some optimism that the use of school-based universal programs that increase resilience and reduce social and personal problems have the potential to reduce the development of substance use disorders.

Community health issues in preventing internalising

disorders

The extent to which intervention technologies can actually make a difference in the community is influenced by a number of pragmatic public health issues. Most of the intervention studies reviewed were a combination of effectiveness with efficacy trials. That is, while they were conducted in the 'real world' settings, they evaluated the intervention under optimal delivery conditions, eg within the context of a funded research program, using careful experimental designs and measures, and implemented by highly trained and motivated staff.

The question remains as to the community effectiveness of such interventions when implemented in the not-so-optimal conditions of existing mental health and educational systems. Many interventions are evaluated up to the efficacy trial stage and the community effectiveness remains unknown. In the area of prevention, effectiveness trials are essential and thus more work is needed to evaluate these interventions when implemented in community settings by non specialist, non-research motivated staff.

Recruitment of participants is one of the major obstacles of Preventive interventions, regardless of type of prevention. Because participants have not self-referred for treatment and may not even feel they have any problems, especially in early childhood, the sense of urgency and motivation that drives clinical interventions is often absent. With childhood anxiety problems, parents and teachers often have not even noticed anxiety problems or often assume that children will 'grow out of it'.

In the LaFreniere and Capuano (1997) study of selected children, less than one-third of identified participants were successfully recruited. The Roth and Dadds (1999) trial of a parenting intervention applied universally to preschool children has maintained contact with approximately half of those invited to participate. Indicated prevention projects in middle childhood show similar rates of recruitment. Although no adolescent studies were found specifically targeting adolescent anxiety problems, selected and indicated programs for depression in adolescents have typically achieved very low participation rates. The Shochet et al (in press) school-based universal prevention of depression program received parental consent for 86 per cent of potential students. However, when an additional parental,component was added to the program, parent attendance at three evening sessions was very low, with 36 per cent attending one session and only 10 per cent attending all three sessions.

A third issue concerns the administrative systems that control the resource allocations and structures for mental health services. As we have seen, the most evidence to date that anxiety problems can be prevented comes from school-based intervention trials. However, the responsibility for mental health promotion is typically within statutory **health** rather than, **education** departments, and program designers may find their efforts frustrated by a lack of communication between the two groups. Intersectoral issues, concerned with overlapping structure and functions of the various agencies responsible for health and education of young people, are a major issue for the science and practice of prevention.

Conclusions

Interventions for internalising disorders have been reviewed as a potential strategy for reducing the incidence of substance use disorders. An attempt was made to present a developmental map of the risk and protective factors that influence the persistence versus transience of internalising disorders in young people. These switch in and out at various developmental points of the lifespan, and thus, a series of windows of opportunity for intervention can be identified. For these strategies to hold promise, two conditions must hold.

First, it must be shown that interventions can reduce internalising disorders at a community level. In terms of commonsense and the available data, anxiety prevention and early intervention during childhood holds great promise. Family and school-based programs during early childhood have the potential to lay a foundation of social competence, although the findings are mixed as to their long-term effects. Developmentally, the primary school years, the age of onset of most anxiety disorders, appears to be an optimum time to provide both universal and indicated prevention and early intervention initiatives. Although the prevalence of anxiety disorders peaks during adolescence, there has been scant evidence surrounding relevant prevention efforts at this stage of development

Second, reductions in the incidence of internalising disorders must be shown to have an impact on substance use disorders. Studies that directly test the power of internalising disorder interventions to reduce substance use disorders have not been conducted. However, two lines of indirect evidence suggest optimism is warranted. First, available data on developmental pathways of internalising disorders and substance use disorders indicate that internalising disorders precede substance use disorders in a substantial number of cases and may contribute to their occurrence through a variety of indirect and shared causal links. Second, it has been shown that promotion of resilience in the primary school years, using similar strategies as are used to reduce internalising disorders, do in fact reduce internalising disorders and substance use disorders in the adolescent years.

Is it worth pursuing a focus on internalising disorders as a way of reducing the incidence of substance use disorders? At this point the answer seems to be a tentative 'yes'. A high priority for research should involve longitudinal studies of the inter-relations of internalising disorders, externalising problems, and substance use disorders through childhood to early adulthood, with a subset of subjects offering intervention for internalising disorders to assess their impact on substance use disorders.

References

Angst, **J.,** Vollrath, M., Merikangas, K.R., Emst, C. Comorbidity of anxiety and depression in the

Zurich Cohort Study of Young Adults. [Chapter] Maser, J.D. (Ed), Cloniger, C., Robert (Ed), et al. (1990). Comorbidity of mood and anxiety disorders. (,pp. 123-137). Washington, DC, USA: Amercian Psychiatric Press, Inc.xvii, 869 pp. Pg 48.

Barrett, P.M., Webster, H.M., Wallis, J.R. Adolescent self-esteem and cognitive skills training: A school-based intervention. *Journal of Child & Family Studies*. Vol 8(2), June 1999, 217-227.

Barrett, RM., Dadds, M.R. and Holland, D.E. 1994 (unpublished manuscript), *The Coping Koala: prevention manual,* University of Queensland.

Barrett, P.M., Dadds, M.R. and Rapee, R.M. 1996, 'Family treatment of childhood anxiety: A controlled trial', *Journal of Consulting and Clinical Psychology, 64:333-42*.

Beardslee, W.R. and. MacMillan, H.L. 1993, 'Preventive intervention with the children of depressed parents: A case study', *Psychoanalytic Study of the Child,* 48:249-76.

Beardslee, W.R. 1989, 'The role of self-understanding in resilient individuals: The development of a perspective', *American Journal of Orthopsychiatry,* 59(2):266-78.

Beardslee, W.R., Hoke, L., Wheelock, I., Rothberg, P.C., van der Velde, P. and Swatling. S. 1992, 'Initial findings on preventive interaction for families with parental affective disorders', *American Journal of Psychiatry, 149:1335-40.*

Beardslee, W.R., Salt, P., Porterfield, K., Rotheberg, P.C., van der Velde, P., Swatling, S., Hoke, L., Moilanen, D.L. and %eelock, 1. 1993, 'Comparison of preventative interventions for families with parental affective disorder', *Journal, of the American Academy of Child and Adolescent Psychiatry, 32:254-63.*

Beidel, D.C. and Turner, S.M. 1997, 'At risk for anxiety: 1. Psychopathology in the offspring of anxious parents', *Journal of the American Academy of Child and Adolescent Psychiatry, 36:918*24.

Bernstein, G.A. and Borchardt, C.M. 1996, 'Anxiety disorders in children and adolescents: A review of the past 10 years', *Journal of the American Academy of Child andadolescent Psychiatry, 35:1110-119.*

Bernstein, G.A. and Borchardt, C.M. 1991, 'Anxiety disorders of childhood and adolescence: A critical review', *Journal of the American Academy of Child and Adolescent Psychiatry, 30:519*32.

Bibb, J.L. and Chambless, D.L. 1986, 'Alcohol use and abuse among diagnosed agoraphobics', *Behaviour Research and Therapy, 24:49-58.*

Caplan G. 1964, *Principles ofpreventative therapy,* Basic Books, New York.

Catalano, R.E, Kosterman, R., Hawkins, D.J. and Newcomb, M.D. 1996, 'Modeling the etiology of adolescent substance use: A test of the social development model', *Journal of Drug Issues,* 26:429-55.

Cicchetti, D., Cowen, E.L., Hightower, A.D., Pedro-Carroll, J.L., Work, W.C., Wyman RA. and Haffrey, W.G. 1996, *School-basedprevention of children at-risk.. The Primary Mental Health Project,* American Psychological Association, Washington, DC.

Clarke, G.N., Hawkins' W., Murphy, M., Sheeber, L.B., Lewinson, P M and Seeley, J.R. 1995, 'Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: A randomised trial of a group cognitive intervention', *Journal of the American Academy of Child Adolescent Psychiatry, 34:312-21.*

Cobham, YE., Dadds, M.R. and Spence, S.H. 1999, 'The role of parental anxiety in the treatment of childhood anxiety', *Journal of Consulting and Clinical Psychology,* vol:66(6), Dec 1998, page 893-905.

Cole, D.A., Peeke, L.G., Martin, J.M., Truglia, R., Seroczynski, A.D. 1998, 'A longitudinal look at the relation between depression and anxiety in children and adolescents', *Journal of Consulting and Clinical Psychology,* 66(3):June 1998, pg 451-60.

Costello, E.J. and Angold, A. 1995, 'Developmental epidemiology,, in D. Cicchetti, E.L. Cowen, A.D. Hightower, J.L. Pedro-Carroll, W.C. Work, P A. Wyman and W.G. Haffrey, 1996, *School-based prevention of children at-risk: The Primary Mental Health Project,* American Psychological Association, Washington, DC.

Cowen, E.L., Wyman, P A. and Work, W.C. 1996, 'Resilience in highly stressed urban children: Concepts and findings', *Bulletin of the New York Academy of Medicine,* 73:267-84.

Cowen, E.L., Wyman, P.A., Work, W.C., Kim, J.Y., Fagen, D.B. and Magnus, K.B. 1997, -Follow-up study of young stress-affected and stress-resilient urban children', *Development and Psychopathology,* 9:565-77.

Dadds, M.R., Spence, S.H., Holland, D.E., Barrett, PM. and Laurens, K.R. 1997, 'Prevention and early intervention for anxiety disorders: A controlled trial', *Journal of Consulting and Clinical Psychology, 65(4):627-35.*

Dadds, M.R., Barrett, PM. and Cobham, V.E. 1997, 'Anxiety disorders', in T.H. Ollendick (ed), *Comprehensive clinical psychology: VoL 4: Children and adolescents: Clinicalformulation and treatment,* Elsevier Science Inc., Oxford, UK.

Dadds, M.R., Holland, D.E., Laurens, K.R., Mullins, M., Barrett, PM. and Spence, S.H. 1999, 'Early intervention and prevention of anxiety disorders in children: Results at two-year follow*up',* *Journal of Consulting and Clinical Psychology,* vol:67(1), Feb 1999, page 145-150.

Dadds, M.R., Spence, S.H., Holland, D.E., Barrett, PM. and Laurens, K.R. 1997, 'Prevention and early intervention for anxiety disorders: A controlled trial', *Journal of Consulting and Clinical Psychology, 65:627-35.*

Fox, N.A. and Calkins, S.D. 1993, 'Social withdrawal: Interactions among temperament, attachment, and regulation', in K.H. Rubin and J.B. Asendorph (eds), *Social withdrawal,*

inhibition and shyness in childhood, Erlbaum, Hillsdale, NJ.

Gillham, J.E., Reivich, K.J,, Jaycox, L.H. and Seligman, M.E. 1994, 'Prevention of depressive symptoms in school children: Two-year *follow-up' Psychological Science, 6(6):343-50.*

Gorman, D.M. 1996, 'Do school-based social skills programs prevent alcohol use among young *people?', Addiction Research, 4:191-2* 1 0.

Greenberg, M., Zins, J.E., Elias, M.J. and Weissberg, R.P. (in press), 'School-based prevention: Promoting positive youth development through social and emotional learning', *American Psychologist.*

Hagnell, 0., Graesbeck, A. Comorbidity of anxiety and depression in the Lundby 25-Year Prospective Study: The pattern of subsequent episodes. [Chapter] Maser, J.D. (Ed), Cloninger, C.R. (Ed), et al. (1990). Comorbidity of mood and anxiety disorders. (pp. 139-152). Washington, DC, USA: American Psychiatric Press, Inc. xvii, 869 pp.pg 49.

Hains, A.A. and Ellman, S.W. 1994, 'Stress inoculation training as a preventative intervention for high school youths', *Journal of Cognitive Psychotherapy,* 8(3):219-32.

Hawkins, **J.,** Catalano, R., Kosterman, R., Abbott, R. and Hill, K. (in press), 'Preventing adolescent health risk behaviours by strengthening protection during childhood', *Archives of Paediatrics and Adolescent Medicine.*

Henry, B., Feehan, M., McGee, R., Stanton, W., Moffitt, T.E. and Silva, P. 1993, 'The importance of conduct problems and depressive symptoms in predicting adolescent substance use', *Journal of abnonnal Child Psychology, 21:469-80.*

Jaycox, L.H., Reivich, K.J., Gillham, J. and Seligman, M.E.P. 1994, 'Prevention of depressive symptoms in school children '*Behaviour Research Therapy, 32(8):801-16.*

Kashani, **J.H.** and Orvaschel, H. 1990, 'A community study of anxiety in children and adolescents', *American Journal of Psychiatry, 147:313-18.*

Kendall, P.C. 1994, 'Treating anxiety disorders in children: Results of a randomised clinical trial', *Journal of Consulting and Clinical Psychology, 62:* 1 00-1 1 0.

Kendall, P.C., Flannery-Schoeder, E " Paanichelli-Mindel, S.M.1 Southam-Gerow, M., Henin, A. and Warrnan, M. 1997, 'Therapy for youths with anxiety disorders: A second randomised clinical trial', *Journal of Consulting and Clinical Psychology, 65:366-80.* National Comorbidity Project

Kessler, R., and Price, R.H. 1993. Primary prevention of secondary disorders: a proposal and *agenda. American Journal of Community Psychology,* 21, 607-33.

Kessler, R.C., McGonagh, K.A., Zhao, S., Nelson, C. ., Hughes, M., Eshleman, S., Wittchen, U. and Kendler, K.S. 1994, 'Lifetime and 12-month prevalence of DSM-I'-R psychiatric disorders in the United States, *Archives of General Psychiatry, 51:8-19.*

Kiselica, M.S., Baker, S ' B., Thomas, R.N., Reedy' S Effects of stress inoculation training on anxiety stress, and academic performance among adolescents. *Journal of Counselling Psychology.* Vol 41(3), July 1994, 335-342.

Kosterinan, R., Hawkins, **J.,** Spoth, R., Haggerty, K.P. and Zhu, K. 1997, 'Effects of a preventive parent-training intervention on observed family interactions: Proximal outcomes from Preparing for the Drug Free Years', *Journal of Community Psychology, 25:337-52.*

Lewinsohn, P.M., Clarke, G.N., Hops, H. and Andrews, **J.** 1990, 'Cognitive-behavioural treatment for depressed adolescents', *Behaviour Therapy,* 21:3 85-40 1.

Loeber, R., Russo, M.E, Stouthamer-Loeber, M. and Lahey, B.B. 1994, 'Internalizing problems and their relation to the development of disruptive behaviors in adolescence', *Journal qf Research on Adolescence, 4:615-37.*

Loeber, R., Southamer~Lober, M. and White, H.R. 1999, 'Developmental aspects of delinquency and internalizing problems and their association with persistent juvenile substance use between ages 7 and 18', *Journal of Clinical Child Psychology, 28:322-32.*

Lochman, J.E. 1992, 'Cognitive behavioral interventi n with aggressive boys: Three year followup and preventative efforts', *Journal of Consulting and Clinical Psychology, 60:426-32.*

Mrazek P.J. and Haggerty R.J., (eds) 1994, *Reducing risksfor mental disorders: Frontiersfor preventive intervention research,* National Academy Press, Washington, DC.

Pedro-Carroll, J.L., Alpert-Gillis, L.J., Cowen, E.L. An evaluation of the efficacy of a preventative intervention for 4 h-6" grade urban children of divorce. *Journal of Primary Prevention.* Vol 13(2), Winter 1992, 115-130.

Pine, D.S., Cohen, P., Gurley, D., Brook, J. and Ma, YJ. 1998, 'The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders', *Archives of General Psychiatry, 55:56-64.*

Perrin, S. and Last, C.G. 1992, 'Do childhood anxiety measures measure anxiety?', *Journal of Abnormal Child Psychology, 20:567-78.*

Reiger, D.A., Farmer, M.E., Rae, D.S., Locke, B.Z., Keith, B.J., Judd, L.L. and Goodwin, F.K. 1990, 'Comorbidity of mental health disorders with alcohol and other drug abuse: Results from the Epiden-iiological Catchment Area (ECA) study', *Journal of the American Medical Association, 264:2511-18.*

Riggs, P.D., Mikulich, S.K., Whitmore, E.A. and Crowley, Ti. 1999, 'Relationship of ADHD, depression and non-tobacco substance use disorders to nicotine dependence in substance dependent adolescents', *Drug and Alcohol Dependence, 54:195-205.*

Roth, **J.** and Dadds, M.R. 1999, 'Reach for Resilience: Evaluation of a universal program for the prevention of internalising problems ' **in** young children', *Griffith Early Intervention Project,* School of Applied Psychology, Griffith University.

Schinke, S.P., Tepavac, L. Substance abuse prevention among elementary school students. *Drug & Society.* Vol 8 (3-4), 1995, 15-27.

Shochet, I. M. and O'Gorinan, J. 1995, 'Ethical issues in **research on** adolescent depression and **suicidal behaviour',** *Australian Psychologist, 30:183-87.*

Shochet, I., Holland, D. and Whitefield, K. 1997a, *The Griffith Early Intervention Depression Project.. Group Leader's Manual,* Griffith Early Intervention Project, Brisbane.

Shochet, I., Whitefield, K. and Holland, D. 1997b, *The Griffith Early Intervention Depression Project: Participant's Workbook,* Griffith Early Intervention Project, Brisbane.

Shochet, I.M., Dadds, M.R., Holland, D., Whitefield, K., Harnett, P. and Osgarby, S.M. (in press), 'Short-term effects of a universal school-based program to prevent adolescent depression: A controlled trial', *Journal of Consulting and Clinical Psychology.*

Shure, M.B. 1997, 'Interpersonal cognitive problem solving: Primary prevention of early high-risk behaviours in the preschool and primary years', in G.W. Albee and T.P. Gullota, (eds) *Primary prevention works,* Sage, London.

Simeonsson, **R.J.** 1994, 'Toward an epidemiology of developmental, educational, and social problems of childhood', in **R.J.** Simeonsson, (ed.) *Risk resilience and prevention.*

Tiemey, **J.P.,** Grossman, **J.B.** and Resch, N.L. 1995, *Making a difference: The impact study of Big BrotherlSister,* Flublic/Private Ventures, Philadelphia, PA.

Wemer, E.E. 1993, 'Risk, resilience, and recovery: Perspectives from the Kauai longitudinal *study', Development and Psychopathology, 5:503-15.*

Wyman, P.A., Cowen, E.L., Work, W.C. and Kerley, J.H. 1993, 'The role of children's future expectations in self-system functioning and adjustment to life stress: A prospective study of urban at-risk children', *Development and Psychopathology, 5:649-6* 1.

Treatment of comorbidity

Associate Professor David J. Kavanagh

Executive summary

Services have typically been poor at detecting substance abuse in mental disorders unless systematic screening is in place. Some standard measures of substance use are poorly validated for use in populations with severe mental disorder, but suitable screening measures are now available. While additional development of assessment procedures is needed, a key task now is to train health practitioners to provide screening and assessment for comorbidity, and promote systematic screening for comorbidity.

People with comorbidity are sometimes rejected from treatment and from rehabilitation, employment and housing options, but there is little hard evidence on the scale of this problem. Clinicians report a lack of specialist resources for people with severe comorbidity, and say that problems with communication and collaboration between service providers are common.
Mechanisms for ensuring equity of access and service quality for this population are urgently needed.

The available evidence on the nature of effective treatment is scarce and with some exceptions is methodologically weak. In people with psychoses, support is mounting for integrated treatment of both disorders by a single case management team rather than use of sequential or parallel treatments for the comorbid disorders. There are significant problems in delivering integrated treatment when different staff and administratively separate services deliver specialist treatment for mental disorders and substance misuse.

In principle, an integrated approach should be more effective in any set of comorbid disorders that are in a relationship of mutual influence, but at the moment there seems to be no direct evidence on the relative benefit of integrated treatment within non-psychotic populations.

The existing research does support the effectiveness of pharmacotherapies for psychoses, . depression and anxiety in the context of substance misuse. Current data on psychological treatments such as cognitive-behavioural therapies are promising, but there are very few well controlled studies. In comorbid psychotic disorders, we know very little about what elements of treatment are producing the effects. In non-psychotic comorbidity, the research base is even narrower.

Our knowledge about the nature of comorbid disorders suggests that:

- Services for severe mental disorders have to take account of high proportions of consumers also having problems with substance use. Similarly, services for addictive disorders should routinely take account of co-occurring features of anxiety or depression. Working with these comorbidities should be seen as 'core business' for these services.

- The number of people with anxiety or depression who also have problems with alcohol or other substance use is large. Equitable access to services by this population implies that interventions be geographically accessible and have a low cost. Interventions in primary health care and programs with flexible delivery are needed.

- Comorbid populations are marked by heterogeneity in the type and severity of the disorders and in cognitive functioning. Effective management of comorbidity is likely to require a suite of approaches that vary in their content, length and degree of ongoing support.

- Regardless of the way in which comorbid disorders originated, they usually are in a relationship of mutual influence, rather than being completely independent or completely secondary. Treatment of one disorder sometimes results in spontaneous recovery of the other, but a division of disorders into those that are 'primary' and those that are 'secondary' is problematic.

- The majority of people with comorbidity prefer a moderation goal to complete abstinence. They are likely to have a fluctuating course to their disorders and in their commitment to change. Successful engagement will often require that programs accommodate a range of treatment goals and allow re-entry after lapses. A focus on hann reduction is likely to benefit some participants who reject an abstinence option.

- Sustained emotional distress can worsen a number of mental disorders. A highly demanding or confrontative intervention for substance misuse is potentially harmful in these cases.

- Controlled trials of treatment for comorbid disorders are urgently needed, so we can design services for this population using a sound evidence base. Given the frequency and impact of comorbidity on individuals and the community, training of health practitioners should routinely incorporate what we already know about the assessment and management of cooccurring mental disorders and substance use.

- Research into the assessment and treatment of comorbid disorders is in its infancy. We have little evidence on the specific procedures that are most effective for particular comorbid conditions. However there are some indications on what principles might guide the design of services and specific treatments.

Equity of service access

A common observation is that many people with comorbid substance abuse and mental health problems fail to receive services or are provided with treatment of less intensity or lower quality than if they had either disorder by itself (Kavanagh et al., in press). Reported problems extend across provision of acute treatment, accommodation, rehabilitation and work programs (Kavanagh et al., in

press). Two related problems are seen - exclusion from existing services that might be able to help them (eg not providing in-patient admission or rejectin. accommodation) and an absence of appropriate specialist resources (eg appropriate rehabilitation or leisure activities). The extent of the problem is difficult to establish, but it is sufficiently common to pose substantial difficulties for health services managing comorbidity (Kavanagh et al., in press). Policies to ensure equity of access and quality of service delivery are needed, and monitoring systems need to be put in place.

Issues of specialist services versus 'mainstreaming' of this population emerge. Concerns are raised that the comorbid group will affect participants without the comorbidity (eg deal in drugs), or will compromise the effectiveness of programs. However, frequently a small change in program policy may avert the need for additional specialist services. Policies that accommodate people with comorbid conditions within standard services will be critical to providing affordable community responses to comorbidity.

Assessment of cornorbidity

Comorbidity of substance abuse and other disorders is often missed in clinical settings (Ananth et al., 1989). There are several possible reasons for this problem, including training of clinicians, ambiguity in the cause of some symptoms, and the relative insensitivity of some standard screening measures in detecting comorbidity (Carey and Correia, 1998). But the main reason for comorbidity to be missed is that screening does not routinely occur (Appleby et al., 1997).

Testing of breath, urine, blood or hair can potentially provide excellent information on consumption of many substances. However, they have limitations as sole measures of substance related problems. Some substances, such as alcohol, are not readily detectable unless they have been consumed very recently. In many other cases, the clinician has to choose between an immediate test that only says whether a drug has recently been consumed, and a more expensive or delayed test that provides an indication of amount. A substantial delay in obtaining test results makes them of little use for immediate clinical management, and their cost or the perceived difficulty in obtaining samples makes their routine use seem unattractive to health services. Some tests (eg of liver or lung function) can measure changes in the physiological impact of substance use, but pathological tests cannot measure other functional effects.

Both screening and more detailed assessment of either substance abuse or mental disorders will continue to rely on self-report. While this method can present problems with non-disclosure and lack of insight (Drake et al., 1990; Weiss et al., 1998), self-reports can be reliable and valid if there are incentives for accurate disclosure (Carey and Correia, 1998). Prior development of rapport with the assessor appears critical, and the belief that information will be checked against laboratory results or reports from other informants can increase the accuracy of self-report in settings where it otherwise presents problems (Wilson et al., 1990).

A substantial functional impact from substance use can occur at relatively low levels of consumption when a comorbid disorder is present (Drake et al., 1990; Test et al., 1989). Screening measures such as the Michigan Alcohol Screening Test (MAST), that are best at detecting more severe disorder therefore have limited utility in comorbid populations. Some brief self-report measures that screen for substance abuse now have demonstrated reliability and validity in populations with mental disorder These include:

- the Alcohol Use Disorders Identification Test (AUDIT: Babor et al., 1989; Saunders et al. 1993; Kavanagh et al., 1999);

- the Dartmouth Assessment of Lifestyle Instrument (DALI: Rosenberg et al., 1998),
- the Severity of Dependence Scale (SDS: Gossop et al., 1995); and
- the DrugCheck (Kavanagh et al., 1999).

While there is still much to be done in refining these and other measures, the primary task now appears to be shifting to the successful dissemination of the measures to routine clinical practice.

Models of cornorbidity treatment

Models of comorbidity treatment can broadly be divided into sequential, parallel or integrated approaches (Minkoff, 1989). In a **sequential** model, one disorder is treated before the othen An example is an attempt to undertake alcohol withdrawal before attempting to treat other problems. In a **parallel** approach, two different practitioners or treatment teams deal with two separate problems. An **integrated** approach attempts to address the comorbid disorders within a single program that is usually delivered by one treatment team.

A **sequential** treatment approach is best suited to situations where one disorder is thought to be secondary to the other, or where symptoms that look like a second disorder are really related to the first, and there is no true comorbidity at all. In this situation, treatment of the primary condition might lead to relief of the secondary one. So, Brown and Schuckit (1988) observed that, while 42 per cent of people attending an in-patient program for alcohol dependence initially seemed to also have major depression, after four weeks of abstinence from alcohol, only 6 per cent still continued to be depressed. It might be suggested that treatment of depression in these people should await the outcomes of alcohol withdrawal (Oei and Loveday, 1997). Considerations such as these have led to attempts to identify'which disorder is primary, or determine whether the disorders are independent (Schuckit et al., 1997). However, even when one disorder predates the other or occurs when the second is in remission, this does not guarantee a lack of relationships between the disorders at other times. For example, an exacerbation of one may make it more likely that relapse occurs in the other, and the presence of each one may make it harder to treat the other.

The most common situation is that the comorbid disorders affect each other or shift in primary or secondary status over time (Hodgkins et al., 1999). Improvements in either disorder may often assist in the treatment of the other. Even when both disorders respond to a treatment for just one of them, the person may still be at risk of relapse if the untreated disorder is rekindled. In most cases,

sequential aspects of treatment probably should be restricted to situations where the evidence shows that a particular procedure cannot be effectively delivered until a specific symptom is addressed.

Parallel treatments have the advantage that both disorders can be simultaneously treated by people with specialist expertise in each area. This model is consistent with the current administrative separation of services for psychiatric disorders and substance misuse, but it can also involve members of a single service. There are several potential disadvantages to this type of approach. If the disorders do influence each other, there is potential for the treatments to be mistimed or to act in conflict with each other. The services may sometimes have very different goals (eg complete abstinence versus harm reduction) or methods (eg confrontation versus clientcentredness, or assertive case management versus personal responsibility for involvement). They may have priorities for service delivery (such as serious mental disorders) that make it extremely difficult to obtain assistance from the partner service in cases that do not fulfil priority criteria. In some situations, policies of multiple services can each exclude particular groups of comorbid consumers, so that the group misses out on the service altogether. Disputes can also occur about which person or service has prime responsibility for case management. In a recent survey of practitioners (Kavanagh et al., in press), inter-service communication, referral and liaison were seen to produce significant problems for managing people with comorbid disorders. While some of these problems might be addressed by collocation or changes in specific health delivery policies, some difficulties in collaboration are probably inevitable in a divided system.

In principle, a fully **integrated** treatment is preferable in any situation where comorbid disorders are in a relationship of mutual influence.

Evidence-based treatment of comorbidity

Psychosis

There is very little evidence on the effective treatment of comorbid substance abuse and mental health problems. Most existing studies are on managing substance abuse in psychosis. They suggest that treatment is more effective if it is integrated across the problem domains rather than working in parallel or in a sequential manner (Drake et al., 1998) Effective treatments focus on developing and maintaining motivation and promote re-entry after lapses. Studies with stronger effects tend to have assertive case management and (in the relatively chronic or severely affected populations usually studied) they extend over several months.

Detailed information on the effective elements of treatment is not yet available, although several treatment approaches have recently been described (Bellack and Gearon, 1998; Graham, 1998; Kavanagh et al., 1998; Sitharthan et al., 1999). Neuroleptic medications have been shown to be effective in treating psychotic symptoms when substance misuse is present (eg Berk et al., 1999; Volavka, 1999). Both acute services and ongoing support for people with psychotic symptoms and substance use should allow for antipsychotic medication to be prescribed routinely.

Non-psychotic affective disorders and anxiety

Research on anxiety and depression has tended to focus on treating the substance abuse or the mental health disorder in the presence of the substance abuse rather than on treating both conditions (Mueser and Kavanagh, in press). Most research has been on pharmacological management of the depression or anxiety in the context of alcohol misuse. Some of these studies have found that medication for depression tends to be less effective when alcohol misuse is present (Worthington et al., 1996). However medications such as imipramine (McGrath et al., 1996) and fluoxetine (Cornelius et al., 1997) remain superior to placebos in comorbid depression and alcohol misuse.

One randomised controlled trial in people with depression and cocaine dependence compared desipramine, cognitive-behavioural treatment for relapse prevention and their combination (Carroll et al., 1995). Desipramine had a specific effect for depressive symptoms and cognitivebehavioural treatment had a specific effect on cocaine outcomes. A combination of the two appears indicated. Nunes et al. (1994) have also supported the use of antidepressants for depression in people undertaking methadone treatment.

Some pharmacological treatments are also effective for anxiety in people with alcohol misuse. Three out of four controlled trials of buspirone have found it superior to placebos for treating anxiety within people with alcohol misuse disorders (Kranzler et al., 1994; Malcolm et al., 1992: Tollefson et al., 1991; 1992), and some promising results on sertraline have been found in an open-label study on post-traumatic stress disorder and alcohol problems (Brady et al., 1995).

There is some support for using cognitive-behaviour therapy for depressive symptoms in conjunction with treatment for alcohol abuse (Brown et al., 1997; Turner and Wehl, 1984). However, existing studies were not limited to people with major depression. The evidence on psychological treatments for anxiety and alcohol misuse currently relies on case studies (Mueser and Kavanagh, in press).

Personality disorders

There appear to be no published controlled trials of integrated treatments for substance abuse or dependence. One recent paper advocated a manualised approach based on schema therapy (Ball, 1998).

Principles for development of treatments and services

Despite the rudimentary state of the research evidence on treatment of comorbidity, some general principles can be developed from our existing knowledge about comorbidity and treatment of commonly comorbid disorders.

Effective management of comorbidity is likely to be critical to the cost-effectiveness of services. Associations between substance misuse and mental disorders are even greater in treated populations than in the general community (Regier et al., 1990). Particularly high proportions are seen

in services for more serious problems (such as in-patient wards) and in younger patients (Kavanagh et al., 1999). If these patients are not effectively treated, this will have a substantial impact on the overall effectiveness of the service. In practice, management of comorbidity becomes 'core business' for the service, whether or not this is recognised.

Furthermore, people with comorbid substance abuse and mental disorder are less likely to have a sustained recovery from either disorder (Brown et al., 1995; Mueser et al., 1992), and are more likely to be heavy service users than are those without comorbidity (Kent et al., 1995). The substantial personal and community costs of comorbidity mean that even a relatively small increase in the effectiveness of prevention or treatment has the potential to make a significant impact, and is likely to be worth investment of resources.

- **Service deployment should take into account the degree of risk and community prevalence.** The greatest increased risk of substance misuse is in antisocial personality disorder, bipolar disorder and schizophrenia (Hall et al., in press; Regier et al., 1990). The greatest impact of the substance use is with substances that have the strongest effect on the specific symptoms of the person's disorder (eg in psychosis, hallucinogens, amphetamines and cocaine). Targeting these groups of particularly high-risk users has substantial potential for individual benefit (provided treatment effectiveness can be established).

  On the other hand, a focus on more common conditions such as anxiety or depression, or more commonly used substances such as alcohol or cannabis, is likely to benefit larger numbers of people. In the case of anxiety or depression that is linked to alcohol misuse, a particularly substantial community-wide impact is likely to be achieved by providing accessible and relatively low-cost interventions through, for example primary health care.

- **The treatment response to comorbidity needs to accommodate heterogeneity in the type and severity of comorbiditv and substantial fluctuations in problems and commitment over time.** Some people may respond to standard treatments for each disorder or even to brief interventions; in other cases, intensive lifelong support may be needed. Some people will need pharmacological treatment. The majority will have low substance dependence and will not select an abstinence goal, even in situations where it would be the most appropriate one. Effective comorbidity programs are likely to be marked by inclusiveness, flexibility and individual tailorin.. An approach that is primarily oriented to high dependence or that sees abstinence as the only positive goal will have limited applicability.

- **Services need to accommodate multiple comorbidities.** As in the general community, use of one substance often increases the chance that others will also be used. While alcohol or nicotine abuse often occurs alone, problems with other substances usually involve more than one drug (Kavanagh et al., 1999). Furthermore, symptoms from multiple mental disorders will often be seen. Services that ignore these comorbidities in their treatments run similar risks to those that ignore comorbidity altogether.

- **A confrontational or punitive style in comorbidity treatments runs the risk of triggering exacerbations or** loss **of participants.** Disorders such as schizophrenia, bipolar disorder and major depression are sensitive to emotional distress that may be triggered by criticism, rejection or an inability to deal with task demands (eg Kavanagh, 1992). Sustained confrontation or very punitive responses to lapses have the potential to exacerbate the condition. Engagement and retention of participants in comorbidity programs is a significant challenge (Drake et al., 1998). Features that make the programs aversive to participants increase the risk of their loss to potentially beneficial intervention.

- **Modified elements of existing treatments for individual disorders are likely to be useful in treating comorbidity.** We do of course have data on managing both mental health and substance use disorders that occur alone, including information on their effective management in primary health care. In some cases, controlled trials include substantial amounts of relevant comorbidity in the samples. A modification of key elements from these interventions is likely to benefit people with comorbidity. In some cases, the modification will presumably have to be substantial, for example, the abilities of some people with schizophrenia to apply complex self-management strategies is likely to be limited. In others, little or no change may be needed (eg psychological management of alcohol abuse in a phobic disorder).

  Care will clearly need to be exercised when combining treatments, so that any synergistic reactions promote positive changes in both disorders wherever possible (eg methadone tends to slow the metabolism of tricyclic antidepressants, creating a potential risk of overdose, Scott et al., 1998). In principle, it should also be possible to develop a series of treatment protocols for common, low-severity conditions that could be implemented in standard primary health care.

References

Ananth, J., Vanderwater, S., Kamal, M., Brodsky, A., Gamal, R. and Miller, M. 1989, 'Missed

diagnosis of substance abuse in psychiatric patients', *Hospital and Community Psychiatry,* 40:297-99.

Appleby, L., Dyson, V, Luhins, D. and Cohen, L. 1997, 'The impact of substance use screening on a public psychiatric in-patient population', *Psychiatric Services, 48:1311-16.*

Babor, T.E, de la Fuente, J.R., Saunders, **J.** and Grant, M. 1989, AUDIT. *The alcohol use disorders identification test,* World Health Organization, Geneva.

Ball, S.A. 1998, 'Manualized treatment for substance abusers with personality disorders: Dual focus schema therapy', *Addictive Behaviors, 23:883-91.*

Bellack, A.S. and Gearon, J.S. 1998, 'Substance abuse treatment in people with schizophrenia', *Addictive Behaviors, 23:749-66.*

Berk, M., Brook, S. and Trandafir, A.I. 1999, 'A comparison of olanzapine with haloperidol in cannabis-induced Psychotic disorder: a double-blind randomized controlled trial', *International Clinical Psychopharmacology,* 14:177-80.

Brady, K. T., Sonne, S. C. and Roberts, J. M. 1995, 'Sertraline treatment of comorbid posttraumatic stress disorder and alcohol dependence', *Journal of Clinical PsychiatrY, 56:502-5.*

Brown, R.A., Evans, D.M., Miller, 1.W., Burgess, E.S. and Mueller, T.I. 1997, 'Cognitivebehavioral treatment for depression in alcoholism', *Journal of Consulting and Clinical Psychology, 65:715-26.*

Brown, S., Inaba, R., Gillin, C., Schuckit, M., Stewart, M. and Irwin, M. 1995, 'Alcoholism and affective disorders: Clinical course and depressive symptoms', *American Journal of Psychiatry,* 152:45-52.

Brown, S.A. and Schuckit, M.A. 1988, 'Changes in depression among abstinent alcoholics', *Journal of Studies on Alcohol,* 49:412-17.

Carey, K.B. and Correia, C.J. 1998, 'Severe mental illness and addictions: Assessment considerations', *Addictive Behaviors, 23:735-48.*

Carroll, K., Nich, C. and Rounsaville, B. 1995, 'Differential symptom reduction in depressed

cocaine abusers treated with psychotherapy and pharmacotherapy', *Journal of Nervous and Mental Disease, 183:251-59.*

Cornelius, **J.R.,** Salloum, I.M., Ehler, **J.G.,** Jarret, **P.J.,** Cornelius, M.D., Perel, **J.M.,** Thase, M.E. and Black, A. 1997, 'Fluoxetine in depressed alcoholics', *Archives of General Psychiatry,* 54:700-5.

Drake, R.E., Mercer-McFadden, C., Mueser, K.T., McHugo, **G.J.** and Bond, G.R. 1998, 'Review t, of integrated mental health and substance abuse treatment for people with dual disorders', *Schizophrenia Bulletin,* 24-589-608.

Drake, R.E., Osher, F.C., Noordsy, D.L., Hurlbut, S.C., Teague, G.B. and Beaudett, M.S. 1990, 'Diagnosis of alcohol use disorders in schizophrenia', *Schizophrenia Bulletin,* 16:57-67.

Gossop, M., Darke, S., Griffiths, P., Hando, **J.,** Powis, B., Hall, W. and Strand, J. 1995, 'The severity of dependence scale (SDS): Psychometric properties of the SDS in English and Australian samples of heroin, cocaine and amphetamine users', *Addiction, 90:607-14.*

Graham, H.L. 1998, 'The role of dysfunctional beliefs in individuals who experience psychosis and use substances: Implications for cognitive therapy and medication adherence', *Behavioural and Cognitive Psychotherapy,* 26:193-208.

Hall, W., Teeson, M., Lynskey, M. and Degenhardt, L. (in press), 'The 12-month prevalence of substance use and ICD-10 substance use disorders in Australian adults: Findings from the National Survey of Mental Health and Wellbeing', *Addiction.*

Hodgkins, D.C., el-Guebaly, N., Annstrong, S. and Dufour, M. 1999, 'Implications of depression on outcome from alcohol dependence: a three-year prospective follow-up', *Alcoholism: Clinical and Experimental Research, 23:151-57.*

Kavanagh, **D.J.** 1992, 'Recent developments in expressed emotion and schizophrenia', *British Journal of Psychiatry, 160:601-20.*

Kavanagh, D.j., Greenaway, L., Jenner, L., Saunders, J., White, A., Sorban, J., Hamilton, G. and members of the Dual Diagnosis Consortium (in press), 'Contrasting views and experiences of health professionals on the management of comorbid substance abuse and mental disorders', *Australian and New Zealand Journal of Psychiatry.*

Kavanagh, D.J., Saunders, J.B., Young, R., White, A., Jenner, L., Clair, A. and Wallis, **J.** 1999 (unpublished report), *Evaluation of screening and brief intervention for substance abuse in early psychosis,* University of Queensland, Brisbane.

Kavanagh, D.J., Young, R., Boyce, L., Clair, A., Sitharthan, T., Clark, D. and Thompson, K. 1998, 'Substance Treatment Options in Psychosis (STOP): A New Intervention for Dual Diagnosis', *Journal of Mental Health, 7:135-43.*

Kent, **S.,** Fogarty, M. and Yellowlees ' P 1995, 'A review of studies of heavy users of psychiatric services', *Psychiatric Services, 46:1247-53.*

Kranzler, H., Burleson, **J.,** DelBoca, F., Babor, T., Komer, P., Brown, **J.** and Bohn, M. 1994, 'Buspirone treatment of anxious alcoholics', *Archives of General Psychiatry, 51:720-3* 1.

McGrath, **P.J.,** Nunes, E.V, Stewart, **J.W.,** Goldman, D., Agosti, V, Ocepek-Welikson, K. and

Quitkin, F.M. 1996, 'Imipramine treatment of alcoholics with primary depression'. *Archives of General Psychiatry, 53:232-40.*

Malcolm, R., Anton, R.F., Randall, C.L., Johnston, A., Brady, K. and Thevos, A. 1992, 'A placebo controlled trial of buspirone in anxious in-patient alcoholics', *Alcoholism: Clinical and Experimental Research, 16:1007-13.*

Minkoff, K. 1989, 'An integrated treatment model for dual diagnosis of psychosis and addiction', *Hospital and Community Psychiatry, 40:1031-36.*

Mueser, K.T., Bellack, A.S. and Blanchard, **J.J.** 1992, 'Comorbidity of schizophrenia and substance abuse: implications for treatment', *Journal of Consulting and Clinical Psychology,* 60(6):845-56.

Mueser, K.T. and Kavanagh, D.J. (in press), 'Treating comorbidity of alcohol problems and psychiatric disorder', in N. Heather, Ti. Peters and T.R. Stockwell (eds) *Handbook of alcohol dependence and related problems,* John Wiley & Sons, Chichester, England.

Nunes, E., Quitkin, F., Brady, R. and Koenig, T. 1994, 'Antidepressant treatment in methadone maintenance patients', *Journal ofaddictive Diseases, 13:13-24.*

Oei, T.P.S. and Loveday, W.A.L. 1997, 'Lifetime diagnosis of major depression as a multivariate predictor of treatment outcome for in-patients with substance abuse', *Drug and Alcohol Review,* 16:261-74.

Regier, D.A., Farmer, M.E., Rae, D.S., Locke, B.Z., Keith, S.J., Ludd, L.L. and Goodwin, EK. 1990, 'Comorbidity of mental disorders with alcohol and other drug abuse: Results from the Epidemiological Catchment Area (ECA) study', *Journal of the American Medical Association,* 264:2511-18.

Rosenberg, S.D., Drake, R.E., Wolford, G.L., Mueser, K.T., Oxman, T.E., Vidaver, R.M., Carrieri, K.L. and Luckoor, R. 1998, 'Dartmouth assessment of lifestyle instrument (DALI): A substance use disorder'screen for people with severe mental illness', *American Journal of Psychiatry, 155:232-38.*

Saunders, **J.,** Aasland, 0., Babor, T., De La Fuente, **J.** and Grant, M. 1993, 'Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption-ll', *Addiction,* 88:791-804.

Schuckit, M.A., Tipp, J.E., Bergman, M., Reich, W., Hesselbrock, YM. and Smith, T.L. 1997, 'Comparison of induced and independent major depressive disorders in 2 945 alcoholics', *American Journal of Psychiatry, 154:948-57.*

Scott, **J.,** Gilvarry, E. and Farrell, M. 1998, 'Managing anxiety and depression in alcohol and drug dependence', *Addictive Disorders, 23:919-3* 1.

Sitharthan, T., Singh, S., Kranitis, P., Currie, J., Freeman, P., Murugesan, G. and Ludowici, J. 1999, 'Integrated drug and alcohol intervention: Development of an opportunistic intervention program to reduce alcohol and other substance use in psychiatric patients', *Australian and New Zealand Journal of Psychiatry, 33:676-83.*

Test, M.A., Wallisch, L.S., Allness, D.J. and Ripp, K. 1989, 'Substance use in young adults with *psychosis', Schizophrenia Bulletin,* 15:465-76.

Tollefson, G.D., Lancaster, S.P. and Montague-Clouse, J. 1991, 'The association of buspirone and its metabolise 1 pyrimidinylpiperazine in the remission of comorbid anxiety with depressive features and alcohol dependency', *Psychopharmacology Bulletin,* 27:163-70.

Tollefson, G.G., Montague, C.J. and Tollefson, S.L. 1992, 'Treatment of comorbid generalized anxiety in a recently detoxified alcoholic population with a selective serotonergic drug (buspirone)', *Journal of Clinical Psychopharmacology,* 12:19-26.

Turner, R.W. and Wehl, C.K. 1984, 'Treatment of unipolar depression in problem drinkers', *Advances in Behaviour Research and Therapy, 6:115-25.*

Volavka, **J.** 1999, 'The effects of clozapine on aggression and substance abuse in schizophrenic patients', *Journal of Clinical Psychiatry,* 60 Suppl. 12:43-46.

Weiss, R., Naiavits, L., Greenfield, S., Soto, **J.,** Shaw, S. and Wyner, D. 1998, 'Validity of substance use self-reports in dually diagnosed outpatients', *American Journal of Psychiatry,* 155:127-28.

Wilson, P.H., Spence, S. and Kavanagh, D.J. 1990, *Behavioural interviewingfor adult disorders,* Chapman & Hall, London.

Worthington, i., Fava, M., Agustin, C., Alpert, **J.,** Nierenberg, A.A., Pava, J.A. and Rosenbaum, J.F. 1996, 'Consumption of alcohol, nicotine, and caffeine among depressed outpatients', *Psychosomatics,* 37:518-22.

Comorbidity and Indigenous Australians

Mr ScottWilson

Mr Wilson did not prepare a formal paper for the workshop. His Presentation raised the following points:

Substance misuse overview

Sixty-one per cent of the 25 to 44-year age group smoke cigarettes and over 50 per cent of the total population are smokers.

Aboriginal women are eight times more likely to die of smoking-related diseases than non-Aboriginal women.

The major cause of dementia amongst Aboriginal people is alcohol-related brain damage.

Seventy -three per cent of 25 to 44-year-olds drank within the last 12 months and 22 per cent drank at levels harmful to health.

The death rate for cirrhosis of the liver in Aboriginal women was 11 times greater than that of non-Aboriginal women, for men it was five times greater.

In the recent National Aboriginal and Torres Strait Islander Survey: 59 per cent of respondents perceived alcohol as the major health problem and 30 per cent indicated that drugs were the next major health problem.

Overall, the unemployment rate amongst Aboriginal people is 38 per cent and the youth

unemployment rate is 50 per cent

Aboriginal people comprise 1.6 per cent of the Australian Population yet account for an arrest rate of 29 per cent. They also make up 17 per cent of the total Prison Population.

Currently there are approx 1000-1200 injecting drug users in Adelaide with heroin and speed being the main drugs. This is approximately 10 per cent of the Adelaide Aboriginal population. Methadone usage is almost nonexistent.

Of major concern to the families and friends of injecting drug users is that 52 per cent had attempted suicide on at least two occasions.

Most Communities do not have any substance misuse services let alone mental health services.

Conclusion

There is a lack of appropriate services to help Indigenous Australians who have comorbid disorders. Services that are available are not coordinated.

Research into causes and prevalence of comorbidity is almost non-existent. We need to identify Programs that have been successful and to involve Indigenous people in all program planning and evaluation There are Programs that have been undertaken that are simple and cost-effective - they just need appropriate dissemination plans.

Comorbidity and cultural diversity

MrAbd Malak

Population overview

Australians from non-English-speaking backgrounds (NESB) comprise approximately 20 per cent of the total Australian Population (Australian Bureau of Statistics, 1996).

New South Wales has the largest population of people born in a non-English-speaking country (40.2%) and the highest number of people who speak a language other than English at home. New South Wales also has the most diverse population of all the Australian States and TerTitories. Source countries recording the largest increases in population were the former Yugoslavia, the former USSR, the People's Republic of China, Hong Kong, Vietnam, the Philippines, India and Indonesia.

The 1996 Census also showed that older people born in a non-English-speaking country constitute 17.8 per cent of the Australian population aged 60 years and over, with this population group expected to increase by a significantly greater proportion (79%) than the Australian-born population (29%).

It may reasonably be predicted that, since it has been four years since the last Census, the 2001 Census will show a considerable increase in the Australian NESB population. For example, available statistics from the Department of Immigration and Multicultural Affairs Settlement Planning Database 1998 showed that, of a total 67 170 settler arrivals to Australia for a one year period (1 996-97), 78 per cent were from a non-English-speaking country.

The diversity of cultures, language, religion, educational and socioeconomic backgrounds, pre-migration and settlement experiences, refugee experiences of trauma, etc. means the Australian NESB population is characterised by different needs, problems and understanding of mental health and mental disorders.

In addition, the specific requirements and problems of groups and individuals within a community may vary significantly. It has also been suggested that certain factors associated with the migration process may increase the risk of mental health problems. These factors include:

- communication problems due to low levels of English language proficiency;
- a drop in socioeconomic status after migration;
- separation from family and loss of extended family and social networks; lack of recognition of professional qualifications; isolation (particularly in the case of older migrants);

- experience of torture and trauma, or prolonged periods of displacement or housing **in** camps for people from refugee backgrounds; and

- negative or discriminatory experiences in Australia.

Age at time of migration, particular adolescent or elderly, has also been found to be a risk factor.

In spite of these potential risk factors, NESB people experience a lower rate of service utilisation for both hospital (acute hospital, psychiatric units and psychiatric hospitals) and community mental health services compared to the general community. Many studies have found that the majority of people from NESB receive mental health treatment and support through general practitioners, psychiatrists or family members and only a small proportion of these people with a diagnosable mental disorder receive specialised treatment through public mental health services (McDonald and Steel, 1997; Mitchell, Malak and Small, 1996).

People from NESB are less likely to voluntarily use mental health services for a mental disorder and are more likely to be hospitalised on an involuntary basis. When admitted to a public hospital or psychiatric unit they are more likely to remain longer. Some are also more likely than the general community to appear before the Mental Health Review Tribunal and to be placed on a Community Treatment Order or Community Counselling Order. Others are more likely to be detained for longer periods in hospital under the involuntary provisions of the *Mental Health Act 1990*.

Issues for NESB communities and comorbidity

A project conducted in the South Eastern Sydney Area Health Service on NESB clients' access to mental health and drug and alcohol services showed some interesting patterns.

- The results showed that even though NESB clients had similar referral p . atterns to service, and similar levels of contact with service staff, there were some significant differences in service received.

- NESB clients received more pharmacological treatments and family consultations and less cognitive behaviour therapy, rehabilitation, drug and alcohol services.

- Perceptions of mental health professionals included:
  - inadequate area-wide guidelines, policies and procedures for NESB clients;
  - the need for greater education, training and skill development; and
  - inadequate numbers and lack of definition of role of bilingual mental health Practitioners.

- Clients and carers also experienced difficulty accessing services.

Drug and alcohol prevalence data

Between 1991 and 1996 research was undertaken in the Vietnamese, Greek, Chinese, Arabic and Italian speaking populations of the Sydney metropolitan area and of the Spanish-speaking

population of the Sydney-Wollongong Area.

A series of questions was asked to determine the relative salience of alcohol, tobacco and other drug issues to each of these sub-populations.

It was found that 26 per cent of the Arabic-speaking sample, 1 1 per cent of the Vietnamese speakers and 10 per cent of the Greek speakers sampled rated illegal drugs as the most serious problem facing the community.

Alcohol use

The Drug and Alcohol Multicultural Education Centre (DAMEC) studies found that alcohol

prevalence rates differed greatly between the Vietnamese, Greek, Chinese, Arabic, Italian and Spanish communities and also within them.

The three European language sub-populations - the Spanish, Italian and Greek speakers had prevalence rates (for 'ever tried alcohol') of between 80 and 90 per cent and in each case rates were higher for males.

Among the Arabic speakers, almost twice as many Christians as Muslims reported having tried alcohol.

Illicit drugs

The reported use of analgesics in the Arabic and Italian speaking samples were higher than in the general community.

People of Spanish-speaking-background under 25 years of age reported use of marijuana similar to that of the general community.

Dependence was the main health problem associated with the use of illegal drugs as mentioned by the Chinese speakers (60%) and Vietnamese speakers (32%) and 21 per cent among the Italian speakers.

However, among Arabic speakers (46%) suicide was the most common problem associated with illicit drug use.

The under-utilisation of health services by people from non-English-speaking backgrounds seems to be related to a number of barriers:

- differing cultural perceptions and lack of understanding of addiction and illness;
- stigma within the community with regard to mental illness;

- acute anxiety about possible hospitalisation and separation from the family;
- lack of information about or understanding of available services; language and communication problems preventing access;
- cultural inappropriateness of services and failure of services to understand or respond to needs of the people;
- insensitivity of service providers;
- delay in diagnosis and failure to detect psychiatric and addiction symptoms accurately;
- general practitioners' lack of resources and skills in providing mental health and drug and alcohol care and in timely referral to appropriate mental health services; and
- lack of coordination of services.

Recommendations

- Liaise with ethnic community organisations and groups to identify needs and issues and to collaborate with them on developing and implementing effective prevention and promotion programs in response to needs.

- Develop and implement culturally appropriate and effective promotion and prevention strategies to:

  - reduce stigma among the communities;
  - provide community education about addiction and illness, eg through use of ethnic media and targeted media campaigns and through ethnic community and religious organisations; and
  - increase health literacy about prevention and early detection by providing information in a culturally appropriate way to the communities about symptoms, treatment, available services, legal issues, etc.

- Identify and collaborate with key partners to coordinate service planning and delivery and facilitate referrals between agencies. These should include:

  - mainstream drug and alcohol services and DAMEC,
  - divisions of general practice,
  - cormnunity mental health teams,
  - psychiatric units and hospitals,
  - the transcultural mental health centre,
  - torture and trauma services, and
  - relevant non-govemment organisations.

- Increase access to bilingual health practitioners.
- Identify suitable settings for health promotion and prevention activities, eg schools, ethnic community clubs or meeting places, primary health care and community health care settings, adult migrant English programs and migrant resource centres.

- Identify and establish strong links with key initiatives in relevant areas, eg research initiatives, rural initiatives, drug and alcohol initiatives, youth initiatives, etc.
- Develop effective competency-based education and training initiatives to increase the skills of service providers and special project officers in working with people from non-Englishspeaking backgrounds.
- Develop evaluation mechanisms to ensure all services and program initiatives respond to the needs of people of non-English-speaking backgrounds and that these needs are taken into account in planning and delivering services and programs.

References

Australian Bureau of Statistics, 1996

McDonald and Steel, 1997

Mitchell, Malak and Small, 1996

Framework for future directions

A synthesis of group work undertaken at the workshop identified six areas across the health continuum to be focussed upon in future directions on comorbidity. In focussing on these areas workshop participants aimed to improve health care practice and health outcomes for comorbidity. The six areas were:

- prevention and early intervention;
- carers and consumers;
- research and evaluation;
- education and training;
- integration or collaboration between services; and
- whole-of-government.

Prevention and early intervention

The first area of prevention covered both universal and targeted prevention strategies and early intervention strategies. The selection of prevention as an area of focus reflected the strong evidence presented at the workshop for the success of prevention interventions in mental health both nationally and internationally (see Dadds page 43).

The workshop made the following recommendations in the area of prevention.

Program of prevention research

It was recommended that a program of prevention research he established to provide a bas's for prevention of comorbidity that will ensure the sustainability of initiatives. Further, in order to build the scientific basis of prevention it was recommended that an Institute of Prevention Research be established.

A trial of early intervention

It was recommended that a trial of early intervention be conducted. A priority for research was identified as a large-scale randomised controlled trial of the effects of early intervention for anxiety and depression on development of substance use disorders through adolescence.

In making the above recommendations the workshop also endorsed a number of principles to guide investment in prevention research and strategies. These principles were as follows:

A lifespan approach

It was recommended that prevention interventions use appropriate settings for different ages based on the best available evidence. For example, family interventions should target the early stages of development and universal health promotion and early intervention should target the later ages (Dadds page 49). The following matrix of intervention settings was suggested:

Matrix Framework		
	Setting	
Age Group	**Education/Workplace**	**Community/family**
Preschool	School	Geography Special needs groups
Childhood		
Adolescence	School	Geography juvenile justice
Adulthood	Work setting	At risk groups
Older people		At risk groups

Sustainability

It was recommended that prevention approaches use existing structures and be built into funding cycles of all sectors (see Andrews et al., page 19).

Whole-of-government

It was agreed that the approach taken towards prevention should be whole-of-community and across government sectors, including community groups. It was further agreed that the challenge is to coordinate national programs, including the National Mental Health Strategy, the National Drug Strategy and the Crime Prevention Strategy (Pathways to Prevention). Education Departments, and other government departments have a key role to play in building a crosssectoral plan with initiatives in various areas.

Equity

It was recommended that prevention strategies should have a strong focus on priority groups especially Aboriginal and Torres Strait Islanders. Such a focus was clearly supported by Wilson's evidence (page 7 1).

Indicators of success The indicators of success in the area of prevention and early intervention were suggested as:

- a shift in the field towards prevention, with a greater number of health professionals trained in prevention interventions and an increased number of prevention initiatives being funded; and
- that a scientific base to prevention, including a funding strategy to support prevention research, has been established.

Barriers to success

The workshop identified a number of significant barriers in the area of prevention. These included:

- apathy about prevention; and
- the apparent lack of partnership across health and human service sectors.

Analysis

The workshop clearly endorsed a greater effort towards prevention. To date prevention of mental disorders has a low priority in the health care agenda in Australia. Dadds (page 43) argued that there is now considerable knowledge about environmental and genetic risk factors for mental disorders and substance use disorders. Further, recent large-scale trials in Australia and the United States have shown that brief school-based skills training programs can reduce the incidence of emotional and behavioural problems in pre-adolescent and adolescent populations. These programs are designed to increase social competence and improve skills for managing psychological health. Importantly, many of the same skills have been shown to be effective in treating substance use disorders.

There is potential for population reductions in substance use disorders by targeting their comorbidity with emotional and behavioural disorders. However, no study has as yet assessed as to whether these early intervention programs for emotional problems do actually reduce the incidence of substance use disorders through adolescence. A recommendation of the workshop was that a large-scale randomised controlled trial of the effects of early intervention for anxiety and depression on the development of substance use disorders through adolescence be funded as a matter of priority.

Separating budgets for prevention, treatment and longer-term care also received considerable attention during the workshop. This was particularly so given the Andrews (page 19) analysis of the prevalence of mental disorders. To undertake prevention programs for anxiety, depression and conduct disorders (the areas where there is evidence for effectiveness) with present health budgets is currently beyond the reach of services. So while the workshop endorsed prevention research and interventions it did so acknowledging the investment of ongoing funds needed to sustain such a broadening of activities of health services.

Carers and consumers

The focus on carers and consumer involvement as an area for action reflected the strong and clear presentations to the workshop by carers and consumers regarding the impact of comorbidity (see Mayii page 31 and Ransome page 33). The lack of consumer involvement in service planning and evaluation was a strong theme and a focus of this area.

The workshop made the following recommendations in this area:

Increase awareness of availability of services

It was recommended that initiatives be developed which increase community awareness of the availability of services for individuals with comorbid mental health and substance use problems.

Care plan policy

It was recommended that a care plan policy on consumer and carer involvement in service planning be developed to ensure they are included in all service planning and evaluation. In developing this care plan it was further suggested that a Commonwealth policy be written
outlining the requirements for consumer and carer involvement in service planning, and feedback.

To strengthen this initiative it was further recommended that consumer and carer issues be a focus of the Australian National Council on Drugs, the Mental Health Council of Australia, the Alcohol and Drug Council of Australia and the Australian Health Ministers Advisory Council.

The workshop strongly endorsed the principle of partnership between carers, consumers and service providers and this was reflected in workshop discussions.

Indicators of success

The indicators of success in this area were suggested as:

- improved and strengthened relationships between service providers, carers, bureaucrats and consumers and improved community attitudes towards carers and consumers;
- development and adoption of a consumer/carer involvement policy; and
- development of training packages for consumers and carers to assist in service development.

Barriers to success

The workshop identified a number of significant barriers in the area of carer and consumer involvement. These were:

- a lack of access to information about what services exist;
- attitudinal barriers to involving carers and consumers in service evaluation and planning; and
- insufficient funding to support the involvement of carers and consumers.

Analysis

The workshop strongly endorsed effective involvement of carers and consumers in planning and evaluation. There was recognition that some effective mechanisms have been developed to support the involvement of carers and consumers in service planning. The work of organisations, such as the Mental Health Council of Australia formed the basis of the recommendations of the group.

An emerging theme was that crisis should not be the only portal to treatment and/or assistance for people who are comorbid. It was suggested that the availability of information about effective

interventions (also endorsed by the Research and Evaluation group) would improve literacy and access to care.

Research and evaluation

Research on the epidemiology, causes and treatment of comorbidity was presented to the workshop (Andrews et al., p. 19; Hall et al., p. 1 1; Kavanagh p. 60). The evidence presented about research into causes and treatment demonstrated that while there was promising evidence in some areas, there was a clear lack of evidence in others Of particular concern was the lack of treatment research in areas other than psychoses. In order to base practice on evidence this gap must be addressed. The priority area of research and evaluation reflected this need.

The workshop made the following recommendations in this area:

Strengthen, promote and advance research and evaluation into comorbidity

It was recommended that promotion of comorbidity research should involve development of a conference on comorbidity and inclusion of comorbidity symposia at relevant conferences. Further it was recommended that a bulletin board and website be funded as a means of disseminating information on comorbidity.

Monograph on cornorbidity

It was recommended that a mono-raph in the area of comorbidity be funded. The monograph is to contain a review of current knowledge in the area of comorbidity.

A trial of treatment for cornorbid disorders

The workshop suggested the funding of at least one methodologically sound study in the area of comorbidity in an area other than psychosis.

National minimum data set

It was recommended that reliable and valid information be collected on the extent and nature of comorbidity in the treatment population. The national minimum data sets in the mental health and drug and alcohol treatment fields were highlighted as a means of achieving this recommendation. It was therefore further recommended that links be developed between the currently separate mental health and drug and alcohol national minimum data sets.

In making these recommendations, the workshop also endorsed a number of principles to guide investment in research and evaluation. These principles are that:

- practices should be evidence based;
- strategies should be based on consultation; and
- strategies should be feasible and user friendly.

Indicators of success

The workshop suggested the indicators of success in this area be:

- **Improved linkage and access to information.** In particular it was felt that collaboration and communication between research groups and community, carers and consumers is required, with one suggested mechanism being a conference on comorbidity. In addition, the world wide web to be used as a mechanism for linking research groups.

- **Improved data collection systems.** Workshop participants agreed that collection of prevalence data in clinical populations was needed, along with audits of current services. This would include establishing a common minimum data set with agency input - for presentation to the Commonwealth Mental Health and Special Programs Branch, and Drug Strategy and Population Health Social Marketing Branch, the Ministerial Council on Drugs Strategy and the Health Ministers Conference.

- **Improved evidence.** Randomised trials and program evaluation to establish best practice in prevention, training and interventions are funded. In addition the Commonwealth will explore prioritised funding for collaborative research and the conduct of at least one methodologically sound study in an area, other than psychosis. (see Andrews et al page 19 and Kavanagh page 60).

- **A monograph** on comorbidity published, printed and disseminated with evidence that the monograph is being used.

Barriers to success

The workshop identified a number of significant barriers in the area of research and evaluation. The foremost barrier was access to funding. In addition, lack of expertise in comorbidity and poor coordination of existing research projects were identified as barriers to adequate research on comorbidity in Australia.

Analysis

The workshop identified a sufficient and strong research base as a priority. Such a base does not exist in many areas relevant to comorbidity as outlined in the reviews by Hall et al. (page 1 1) and Dadds (page 43). Kavanagh, in reviewing the literature, concluded that available evidence on the nature of effective treatment is scarce. In people with psychoses, support is mounting for integrated treatment of both disorders by a single case management team rather than the use of sequential or parallel treatments for the comorbid disorders. However, there is no direct evidence on the relative benefit of integrated treatment with non-psychotic populations.

Kavanagh concluded that the existing research does support the effectiveness of pharmacotherapies for psychoses, depression and anxiety in the context of substance misuse. Further, psychological treatments such as cognitive-behavioural therapies are showing promising results, but there are few well-controlled studies. In comorbid psychotic disorders, we know little about what

elements of treatment are producing the effects. In non-psychotic comorbidity, the research base is even narrower. This lack of research base along with the findings of Andrews et al. (page 19) that three-quarters of the mental disorder related disability in Australia was related to depression and anxiety, made a significant case for research trials to be funded in this area.

A significant recommendation of this group was production of a monograph on comorbidity, outlining current knowledge in the area. The workshop endorsed the production of a monograph that builds on the background papers assembled for the workshop. The research and evaluation group recommended that Dr Maree Teesson take responsibility for developing and producing the monograph. The workshop endorsed this recommendation.

Education and training

Presentations in the areas of prevention, treatment and general practice highlighted the availability of effective interventions in mental health and substance use treatment (Dadds p.43; Kavanagh p.60; MacQueen p.39). However, they also emphasised the lack of training and specialist education available. In following the evidence-based practice model of this workshop, the broad area of training and education reflects the need to address specialist training in both mental health and substance use treatment.

The workshop made the following recommendations in this area:

Develop a National Working group on training in comorbidity
It was recommended that a National Working group on training in comorbidity be established to oversee the expansion and improvement in training. The workshop recommended that this group be involved in developing. core competencies for services to individuals with comorbid illnesses and establishing a 24-hour telephone advisory and support service.

National Clearing House

It was recommended that educational resources should be audited and disseminated through a National Clearing House. Further, additional resources should be developed and disseminated as required. This recommendation is consistent with **the** recommendation made **by** the research and evaluation group **concerning** an electronic bulletin board, the website and the monograph.

In making the above recommendations the workshop also endorsed a number of principles to guide investment in education and training, namely, a client-centred model should underlie the whole system and carers and other non-specialists should be supported in providing care to those with comorbid disorders.

Indicators of success

The indicators of success in this area were suggested by the workshop as:

- development of a National Clearing House;
- establishment of a National Working Group for education and training in comorbidity; and

- development of collaborative training materials across both mental health and drug and alcohol treatments.

Barriers to success

A number of significant barriers were also identified by the education and training group including competition for curriculum time in health training and a lack of role models and cross disciplinary expertise.

Analysis

A clear theme of the workshop, reflected in the education and training group's recommendations, was the link between evidence and practice. The recommendations of the group focus on strategies to improve access to evidence-based information concerning interventions. The papers presented at the workshop outlined the available evidence, particularly in regards to treatment (Kavanagh p.60). However, presentations on the impact of comorbidity on consumers, carers and services and workshop discussions made it clear that access to effective interventions was hampered by a lack of training in the area (Mayii, p.31; Ransome, p.33; MacQueen, p.39, Malak, p.73).

Integration or collaboration between services

Services and limitations of the present system were a clear issue identified by the workshop in relation to comorbidity. Presentations on services, general practice , comorbidity and Indigenous Australians and comorbidity and cultural diversity provided clear evidence of failures of the service system(Webster, p.37; MacQueen, p39; Wilson, p.71; Malak, p.73). While it was recognised that Australia has developed excellent treatment services in both mental health and substance use disorders, the lack of communication between the two systems is a significant barrier to providing effective care to those individuals with comorbid disorders.

The workshop made the following recommendations in the area of services:

Access and communication

It was recommended that treatment services be more client focussed and more readily accessible. To facilitate this process it was recommended that common assessments, points of entry and a single patient file be developed across mental health and drug and alcohol treatment services. This recommendation is consistent with the recommendation by carers and consumers regarding a care plan policy and the recommendation of the research and evaluation group regarding, links between the minimum data sets in mental health and drug and alcohol.

Partnerships between general practitioners and specialists

It was recommended that funding be provided to promote partnerships between general practitioners and specialist services to ensure an integrated approach to comorbidity.

Position paper

A further recommendation was made that these issues be developed in a position paper on comorbidity submitted to Royal Australian College of General Practitioners.

In making these recommendations the workshop also endorsed a number of principles to guide services in relation to comorbidity. These principles were that services would be consumer focussed - equitable, accessible, responsive and inclusive. Further, the system should function in an integrated way and respond to comorbidity as common practice in all services across health, corrections, education and primary care.

Indicators of success The workshop identified a number of indicators of success for services. These were:

- decrease in prevalence of comorbidity (measured in a national survey) and other defined harrns of suicide and incarceration;
- increase in access to services by people experiencing comorbidity;
- increase in quality of services provided to people with comorbidity;
- Health Insurance Commission recognises the specialist nature of drug and alcohol services;
- single file issue explored and associated problems are addressed - eg privacy and confidentiality and electronic, consumer accessible records to be considered; and
- Commonwealth provide funding to promote partnerships between general practitioners and specialists. This is to include specialist mental health advice available to general practitioners and a position paper on comorbidity presented to the Royal Australian College of General Practitioners.

Barriers to success

Significant barriers to success in the area of services were nominated - they are primarily insufficient funding to services and prejudice and discrimination.

Analysis

The services group reflected the evidence presented to the workshop on the current imbalance between funding for mental health and drug and alcohol services and the burden of disease resulting from these disorders. Andrews et al. (page 19) clearly demonstrated that currently funding is incommensurate with need.

The epidemiology also demonstrates that comorbidity is of particular concern for young adults aged 15-24 years. The recent Australian burden of disease and injury study found that nine out of the ten leading causes of burden in young males and eight out of ten leading causes in young females were substance use disorders or mental disorders. Thus, apart from the burden resulting from road traffic accidents (and asthma in females), the disease burden in this group is the result of alcohol dependence, suicide, bipolar affective disorder, heroin dependence, schizophrenia, depression, social phobia, borderline personality disorder, generalised anxiety disorder and eating disorders. Comorbidity of these disorders is high, with over 50 per cent having comorbid disorders.

Andrews et al. (page 19) pointed out that health care has always and will always be rationed and there will never be sufficient funds to provide care that all individuals with mental disorders would like or

need. Australia spends 8.5 per cent of its gross domestic product on health; the United Kingdom spends 6.5 per cent; and Canada spends 9.5 per cent. Australia spends 5 per cent of its health budget on mental health services.

The burden to society of mental disorders and substance use disorders is considerable. The recent WHO burden of disease report estimates that mental health and drug and alcohol contribute 20 per cent to the burden of disease in society. Mental disorders are the third leading causes of burden in the developed countries after cardiovascular disease and neoplasms. Within the mental disorders, anxiety and depression account for 56 per cent of the overall burden and substance use disorders account for 23 per cent. Importantly, these disorders are amenable to care.

The Australian burden of disease report also highlighted that mental health and drug and alcohol contribute 20 per cent to the burden of disease in society yet (as stated above) only 5 per cent of the health budget, or 0.4 per cent of the gross domestic product, is spent on mental health and drug and alcohol in Australia. This is half of what Canada, the United Kingdom and New Zealand spend.

Andrews et al. argued that we currently spend a considerable proportion of our health budget on people with chronic long-term disorders; Hall et al. argued a similar point (page 1 1). While we have evidence that treatment can be effective for long-term disorders (Kavanagh, page 60), there is a substantial group of people disabled by mental disorders who do not get treatment and who may also benefit from treatment.

Andrews et al. (page 29) concluded that the majority of health care funding goes into psychosis and substance dependence, in part because these disorders can cause affront and alarm however the majority of treatable disability lies within the affective and anxiety disorders which do not cause affront or alarm. Perhaps we could better prioritise treatment. The recommendations of this group reflect the need to reconsider access to care for all with mental disorders and substance use disorders. Whether we allocate our resources based on individual burden or health gain was not resolved by this first workshop.

Whole-of-government

The National Survey of Mental Health and Wellbeing (see Andrews et al. page 19) provides a clear picture of the scope of comorbidity in the population. It demonstrates that comorbidity is common and that current resource allocation in mental health is insufficient. The survey also demonstrates the need for a whole-of-government approach. Recognition of the number of different government departments which potentially address comorbidity and the data from the National Survey led the workshop to address the broad area of whole-of-govemment as a target area.
The workshop made the following recommendations in this area:

Establish effective inter-sectoral partnerships

Comorbidity was recognised as a multifactorial issue including housing, income, welfare, health, criminal 'ustice, education and training. It was recommended that initiatives undertaken in comorbidity involve the whole-of-govemment. It was further recommended that effective intersectoral partnerships be established, with a strong emphasis on consumers' and carers' equal participation. Also required is an approach that recognises the particular needs of priority groups such as Indigenous Australians and individuals from culturally and linguistically diverse backgrounds.

Establish funding priorities based on evidence

The evidence presented at the workshop highlighted the fact that funding for treatment service is not currently based on the best available evidence. It was recommended that funding for mental health and drug and alcohol services be based on both the burden of disorders and the evidence for effective interventions. Further, it is recommended that funding models be developed to ensure provision of both prevention and treatment services.

The whole-of-government group and the workshop endorsed a number of key principles. These were:

- maintenance of equity of access to care,
- collaboration between key stakeholders, including professionals in mental health, drug and alcohol, primary health, consumers and carers and non-govemment organisations, and
- maintenance of quality.

Indicators of success

The key indicators of success for a whole-of-government approach were identified as:

- a 30 per cent reduction in comorbidity amongst the prison population in five years through improved access;
- early intervention programs;
- developing links with criminal justice agencies to redefine and examine current laws;
- increased effective partnerships with key stakeholders; and
- increased workforce satisfaction across all sectors, reflected in greater competence and
- heightened confidence.

Barriers to success

The major barriers identified were the existing fragmentation across government, at both state and federal levels, and discrimination.

Analysis

The whole-of-government recommendations reflect a recognition that there are up to nine different government branches at the Commonwealth level responsible for ensuring adequate care and treatment to individuals with comorbid disorders. This often leads to fragmentation. Many of this group's recommendations were reflected in previous recommendations from other groups. The

question of integration arose during discussion with the workshop. It was clearly endorsed that the workshop supported integration of the mental health and drug and alcohol areas but did not support amalgamation. This was clearly an issue of the practical implications of the suggestions of the workshop and one that will require further analysis.

Summary and way forward

The National Conorbidity Workshop was an unprecedented event and is the **first** step in the

National Comorbidity Project. The community and the government now need to recognise the extent of the problem and provide adequate funding.

Currently, general practice is the predominant service providing help to individuals with comorbidity, with little or no support from specialist services. The high prevalence of comorbidity in the community highlights the urgent need to develop resources and effective support mechanisms to help general practice provide this care, and to improve the linkages between general practice and specialist services.

A negative attitude towards individuals with comorbidity exists. We need to work with mutual trust and respect towards consumers and carers, particularly Indigenous Australians and those from culturally and linguistically diverse backgrounds.

We need action for better drug and alcohol and mental . health services: we need some attitudinal and adrriinistrative changes; scarce resources need to be well managed; and partnerships between the public and the private sector need to be developed.

The overall goal of the National Comorbidity Project remains to decrease the prevalence and incidence of comorbidity and to increase the prevalence of early intervention.

Appendices

Appendix 1

Workshop participants	
Facilitator	
Dr Norman Swan	Norman Swan Medical Communications
Participants	
Professor Gavin Andrews	Clinical Research Unit for Anxiety Disorders, New South Wales
Dr Michael Baigent	Department of Psychiatry Flinders Medical Centre, South Australia (Repre Drug and Alcohol Services Council, South Australia)
Dr Amanda Baker	Department of Psychiatry University of Newcastle, New South Wales
Professor Marie Bashir	Central Sydney Mental Health Services, New South Wales
Ms Joanne Brown	University of Queensland, Cairns
Dr Peggy Brown	Mental Health Services Reform, Queensland Health
Ms Jude Byrne	Australian National Council on Drugs
Mr Dermot Casey	Assistant Secretary Mental Health and Special Programs Branch Common Department of Health and Aged Care
Mr Peter Chandran	Ted Noffs Foundation, New South Wales
Ms Maxine Clark	National Rural Health Alliance
Dr Joan Clarke	Deputy Chair, Mental Health Council of Australia; Australian Psychiatric D Coalition; Prahran Mission, Melbourne
Mr Brian Corcoran	First Assistant Secretary Population Health Division Commonwealth Depa Health and Aged Care
Mr Steve Crook	North Western Adelaide Mental Health, South Australia
Mr David Crosbie	Odyssey House, Victoria (representing National Expert Advisory Committ Alcohol)
Professor Mark Dadds	School of Applied Psychology Griffith University, Queensland
Ms Judith Davis-Lee	Mental Health Branch ACT Department of Health and Community Care
Mr Graeme Doidge	Inner West Area Mental Health Service, Melbourne
Dr Glenys Dore	Gladesville Macquarie Hospital, New South Wales (representing Australia Society on Alcohol and other Drugs)
Dr Paul Dugdale	Medicare Benefits Branch Commonwealth Department of Health and Age
Ms Katherine Elkins	Early Psychosis Prevention and Intervention Centre, Melbourne
Mr Tindaro Fallo	The Migrant Health Service, South Australia
Dr Michael Fasher	General Practitioner, New South Wales

Ms Robin Fisher	Drug Treatment Services Development Drugs and Health Protection Servi Department of Human Services, Victoria
Mr Tony Fowke	Network of Australian Community Advisory Groups
Ms Skye Fraser	Illicit and Other Drugs Services Department of Health and Human Service
Dr Tony Gill	NSW Drug Programs Bureau NSW Health
Ms Grace Groom	Mental Health Support Strategy Queensland Divisions of General Practice
Dr Robert Hall	Royal Australian College of General Practitioners
Professor Wayne Hall	National Drug and Alcohol Research Centre University of New South Wa
Mrs Leonore Hanssens	Mental Health Services Territory Health Services, Northern Territory
Professor Scott Henderson	Clinical Advisor to National Mental Health Strategy
Ms Victoria Henderson	The Link Youth Health Service, Tasmania
Professor Helen Herrman	Mental Health Services St Vincent's Hospital, Melbourne
Ms Barbara Hocking	SANE Australia
Ms Elena Katrakis	New South Wales Centre for Mental Health, NSW Health
Associate Professor David Kavanagh	Mental Health Centre Royal Brisbane Hospital, Queensland
Ms Helen Keogh	National Aboriginal Community Controlled Health Organisation (NACCHO)
Ms Georgia Keriopa	Mt Isa Mental Health Service, Queensland
Dr Graeme Killer	Department of Veterans'Affairs
Mr Trevor King	Turning Point Alcohol and Drug Centre, Victoria
Mr Gordon Lambert	Illawarra Institute of Mental Health, New South Wales
Mr Steve Larkin	Assistant Secretary Community Development and Social Health Branch Of Aboriginal and Torres Strait Islander Health Commonwealth Department o and Aged Care
Mr Kevin Larkins	Mental Health Division WA Health Department
Dr Michael Lynskey	National Drug and Alcohol Research Centre University of New South Wa
Dr Christine McAuliffe	Australian Divisions of General Practice
Mr Paul McDonald	Youth Substance Abuse Service, Victoria
Dr Rod MacQueen	General Practitioner, New South Wales
Mr Abd Malak	Australian Transcultural Mental Health Network
Ms Cin Mayii	ACT Community Advisory Group
Ms Elizabeth Morgan	Network of Australian Community Advisory Groups (Representing Austral Ministers Advisory Council National Mental Health Working Group)
Mr David Morton	Department of Veterans'Affairs
Ms Margaret Neill	Alcohol and other Drugs Services Royal Darwin Hospital, Northern Territ
Fr Peter Norden	Jesuit Social Services, Melbourne
Mr Pat O'Leary	Mental Health Branch Department of Human Services, Victoria
Dr Robert Parker	Mental Health Services, Darwin
Professor George Patton	Centre for Adolescent Health, Melbourne
Dr Rob Pegram	Medical Adviser General Practitioners Branch Commonwealth Departmen and Aged Care
Ms Julie Perrin	Alcohol and Drug Program ACT Department of Health and Community C
Ms Sally Pink	Mental Health/Alcohol and Other Drugs ACT Department of Health and C Care
Mr James Pitts	Odyssey House, New South Wales (Representing the Alcohol and other I

	Council of Australia)
Dr Allan Quigley	Next Step, Western Australia
Dr Eli Rafalowicz	North Western Adelaide Mental Health, South Australia
Mr Robert Ramjan	Schizophrenia Fellowships Council of Australia
Ms Meta Ransome	Schizophrenia Fellowship of South Queensland
Ms Melissa Raven	Department of Public Health Flinders Medical Centre, South Australia (Re Department of Public Health and National Centre for Education and Trainir Addictions [NCETA], Flinders University)
Dr Carolyn Ryan	Alcohol and Drug Services Department of Health and Human Services, Ta
Ms Robyn Souter	Australian Mental Health Consumer Network, Victoria
Ms Raelene Tabor	North-Northwest Mental Health Service, Tasmania
Mr Chris Tanti	Substance Use and Mental Illness Treatment Team (SUMMITT) North We Health, Victoria
Dr Nevin Taylor	Medical Officer Gold Coast Community Mental Health Service, Queensland
Mr Johan Top	Juvenile Justice Department of Human Services, Victoria
Mr Tony Trimingham	Family Drug Support, New South Wales
Mr Steve Vaughan	National Drug Strategy Unit Commonwealth Department of Health and Age
Ms Suzie Walker	South Sydney Youth Services (also representing Richmond Fellowship of Ne Wales)
Major Brian Watters	Australian National Council on Drugs, New South Wales
Professor Ian Webster	Drug and Alcohol Services University of New South Wales (Representing th Australian National Council on Drugs)
Ms Leanne Wells	Tobacco and Alcohol Section Drug Strategy and Population Health Social M Branch Commonwealth Department of Health and Aged Care
Dr Susan Whicker	Royal Australian College of General Practitioners, New South Wales
Dr Yvonne White	Strategic Planning Group for Private Psychiatric Services; Australian Medica Association
Dr Nicholas Williams	Adelaide Central Community Health Service (Representing Adelaide Wester of General Practitioners, South Australia)
Mr Scott Wilson	Aboriginal Drug and Alcohol Council, South Australia
Ms Kate Wright	Drug Intervention Service Cabramatta, New South Wales
Secretariat	
Ms Sandra Dorsett	Drug Strategy and Population Health Social Marketing Branch Commonwealth Department of Health and Aged Care
Ms Tricia Frake	Mental Health and Special Programs Branch Commonwealth Department of Health and Aged Care
Ms Anne Rosenzweig	Drug Strategy and Population Health Social Marketing Branch Commonwealth Department of Health and Aged Care
Ms Kim Walker	Mental Health and Special Programs Branch Commonwealth Department of Health and Aged Care
Ms Cheryl Wilson	Drug Strategy and Population Health Social Marketing Branch Commonwea Department of Health and Aged Care
Ms Leonie Young	Mental Health and Special Programs Branch Commonwealth Department of Health and Aged Care
Rapporteur	
Ms Lucy Bums	National Drug and Alcohol Research Centre University of New South Wa

Appendix 2

Workshop aims and processes

The workshop has bought together a diverse range of participants. It is a part of the overall

project that looks at the relationship between drugs and alcohol and mental health. The objectives and ground rules of the workshop are as follows:

Objectives The key objectives of the workshop were to:

- bring key people together,
- achieve a shared understanding,
- identify key issues, and
- develop strategies to inform policy and practice at all levels.

Ground rules for the workshop The ground rules established for the workshop were to:

- find common ground - differences in viewpoints will be noted,
- employ strategic non-partisan thinking,
- use the best available epidemiology and clinical evidence available, and
- work within existing structures - may need to be improved or modified.

Format

On day one the first part of the day will involve presentations by a range of speakers on various aspects of comorbidity. Group input to the particular topic will be sought after each speaker. Following the presentations the group will work together to outline their expectations of the workshop.

The second half of day one will be spent in small group work, where participants will be given the following scenario:

Day one - groupwork

It is 2005 and we are now 'doing it right' when it comes to comorbidity. Please paint a rich picture of what is actually happening. In your vision of the future you must think broadly and consider what is happening across the full spectrum of health care including prevention, early intervention and treatment, as well as other community support services. Specifically,

- How do you know you are doing it right9
- How have health and other services changed?
- What are you personally doing that's different, eg how has your job changed?
- Describe the communication lines between mental health, drug and alcohol and primary care (ie general practitioners) and other community support services.
- What exists in training that didn't back in 2000?
- What were the most significant changes for carers and people with comorbid conditions which made a difference to their lives?
- What are the two main barriers which have been overcome9

Following a discussion of these questions the themes and strategies raised were aggregated into a number of themes.

Day two involved work on the specific themes developed from day one. The scenario for the group work on day two is outlined below.

Day two - groupwork

Yesterday we developed a detailed picture of how much better we could be dealing with comorbidity. This session is about specific planning in the theme you've volunteered to work on. You have two hours.

We suggest you frame your overall plan first and then test it on something practical like the assessment tool. The specific tasks you should complete are:

- determine three principles which should drive services . in comorbidity;
- determine one or two three- to five-year strategic goals;
- determine what three things will tell you you've been successful;
- determine what three major barriers need to be overcome;
- nominate 6-8 actions which need to occur for the goal to be achieved, by whom and by when;
- decide what the critical first steps are - again, by whom and when?; and
- decide what commitment this group makes to carry this plan of action forward.

Appendix 3

Participant expectations of the workshop

Table 1 -Chair: lan Webster

Practical service delivery
GPs have an extended role that gives them more time for education
Ideal engagement (good practice)
Policy for dealing with professional cultures and organisations
Inclusiveness - of people and life
Learning
Capacity of systems

Table 2 - Chair:Wayne Hall

Education of families; mental health problems, early identification and early intervention
Education of communities; mental illness, destigmatise
Education of specialist staff; mental health and drug and alcohol
Education of general practitioners
Improving communication, principles, service linkages, clinical pathways, working with families, inter departmental
Resources; more needed

Table 3 - Chair: Rod MacQueen

Priority for research
Appropriate clinical responses
Prevention activity
General infrastructure to support sustainable responses
Access issues
Education issues - including training and course development
Strategic framework for policy makers and funding bodies
Existing overlap of service delivery - integration issues

Table 4 - Chair: David Kavanagh

Acknowledge that it's not the norm - need to upskill the services eg more training for GPs and specialists want preventive focus
Increase awareness (including politicians)
Increased resources
Need to ensure relevance to ethnic cross cultural

Understanding of comorbidity in relation to aboriginal community
Look at ways services structured - increase service match. Note high unmet. demands
Focus on disability or diagnostic labelling
What are the partnerships that will best impact? Training.
Identify differences in orientation of mental health and AD services better understanding
Fall out in criminal justice system
Consumer/carer focus
Socio-economic status/parenting/prevention

Table 5 - Chair: Keyin Larkin

Strategies for Partnerships
Linkages (Alcohol and Drugs, Mental Health Services) that translate to service delivery
Agreed set of barriers and agreed set of strategies to address these
Identified enabling structures for capacity building1
Divesting of ownership issues - client centred approaches
Common ground/language
A priorities set of actions

Table 6 - Chair:Tony Fowke

Work in partnership - Consumers will know who to talk to and resource
Role Of Private psychiatry - funding
Health funds discriminate
Collaborative approach between private and public
Move forward in partnership - some agreement - agree to combine services - bring services together - intersectoral linkages
Think beyond symptoms and diagnosis
Increase range of services
Improve skills of general practitioners working in services (specialised)

Table 7 - Chair: Marie Bashir

Clients will reach identified stepping stones toward effective strategies Identify the needs of Young people and increase programs for them
Intersectoral (departments) collaboration/ integration of approach to indigenous need re: comorbidity issues
Plan of identifiable interventions
Education and training for drug and alcohol and mental health workers, Police, general Practitioners etc (identification, assessments, management and prevention)
More (resources) accent on identifying children and young people at risk - schools, families and teachers - more training and education for research outcome oriented projects)

Table 8 - Chair:Aian Quiggey

Stop happening - substance use sudden change
Start happening - a broad view Of Outcomes
Generic background factors
Budgets for Prevention and treatment
Whole-of-government
Realistic Outcomes
Training and retraining; undergraduate and Post graduate
Incremental change <5 per cent
Tobacco should be an issue
Information to ideas
Action plan with people identified
Practical strategies
Integration/working together

Appendix 4

Themes from group exercise for day one

It's 2005 and we're now doing it right when it comes to comorbidity. Please paint a rich picture of what's actually happening. In your vision of the future you must think broadly and consider what is happening across the full spectrum of health care including prevention, early intervention and treatment, as well as other community support services.

How we know we are doing it right

Services

- Comprehensive assessment - all drug and alcohol workers should do mental health assessments and all mental health workers should do drug and alcohol assessments.
- More open communication and information.
- Engaging Indigenous Australians and those from linguisticallylculturally diverse backgrounds.
- Inpatient care with comprehensive treatment plans and continuity of care upon discharge housing/rehab/family and carers.
- Whole-of-govemment approach - integrated service provision including residential services, services through general practitioners and supportive care.
- Services should have an outcome focus. Performance indicators should include decreased psychopathology, increased appropriate service contact, increased diagnostic data collection, less people with problems.
- Feedback should involve formal monitoring and evaluation, quality assurance and informal, qualitative and quantitative feedback from consumers and carers. Follow-up should continue over an adequate timeframe.
- Positive feedback from consumers and carers from all backgrounds including rural and remote, Indigenous and multiculturally and linguistically diverse, better quality of life for all consumers.
- Proxy markers: Uptake of proven programs and increased resilience training.
- Family cohesiveness or community resilience/violence.
- Multiple markers needed: health, satisfaction, employed, income, housing etc - drug use, age of initiation, teen pregnancy, hope - educational retention.
- Fewer frustrated consumers, carers and service providers.
- Demonstrable improvement in quality, accessibility compassion - age-appropriate services for clients and consumers - consumer feedback.
- Reduction in crisis situations.
- Policies in place and implemented with evaluation and outcomes underway.
- Consumers involved in all aspects of planning, policy and service development. Policies in place - require partnerships to be developed with cultural groups and/or special needs groups, eg Indigenous people.
- Policies in place and implemented with evaluation and outcomes underway.
- Greater acknowledgment of need (hopefully) availability of support services for carers.

- Training - for carers and consumers.
- Access issues addressed, including the need for rural links so consumers can get an appropriate service when it is needed.
- Services should be comprehensive - one shopfront, flexible timeframes, culturally relevant.

Research

- Research should be focussed on outcomes - measurable - relevant health outcomes/ instruments based on randomised controlled trials, consumer satisfaction surveys, more people accessing treatment - fewer relapses and return to services.
- No more descriptive studies but research should focus on cohort studies, action research, and randomised controlled trials. Research should be built in, not optional.
- Outcome studies indicate some promise.

Early intervention

- Emphasis should be put on school-based and early intervention as well as on prevention.
- Early detection/intervention and ongoing treatment should be intersectorial (no boundaries).

How health and other services have changed

- Networks, partnerships and/or service agreements exist between key stakeholders. More collaboration, communication and consultation exist resulting in decreased turf wars and less boundaries. There is more elasticity and flexibility in the system.
- Relevant support to primary care providers including remote support, eg telemedicine, evidence-based interventions, family interventions, parenting programs, preschool
- programs. The aim of these programs is to decrease risk factors, increase protective factors and increase resilience.
- General practitioners doing more psychosis-specific services, anxiety and depression (in
- consultative capacity) -just like asthma or diabetes. Appropriate remuneration for drug and alcohol and mental health.
- Staff attitudes improve.
- Comorbidity is now core business for both specialist services and general practitioners.
- Integrated services health centres exist under the same roof - one entry point, one assessment, one patient file, integrated treatment plan, crisis plan, outreach, general practitioner involvement at the start - both in drug and alcohol and mental health. Common objectives with outreach available and services where needed.
- There is a more holistic view of health - diagnosis and lifestyle and functioning.
- Drug courts - treatment not incarceration, train police, judges and lawyers. Political advocacy.
- Emphasis on comorbidity and substance abuse as a health problem (not a criminal issue for the community).
- Harm reduction as a policy.
- More funding to support common objectives.
- Training for staff in all sectors - ongoing training and culture change, includes working
- with other sectors (curriculum development) to increase core competency - accreditation national standards college training.

- Focus on prevention - cost effectiveness and evidence-based school-based programs. Implementation of evidence-based preventive (including children and young people) strategies (including education and family causes).
- Greater emphasis on access to primary care for earlier intervention and networks.
- Adolescence - deal with comorbidity, train others in appropriate interventions.

How your job has changed

- More research - especially service-based research. Work is more focussed, with outcomes defined and increased awareness of effective evidence-based interventions.
- Service providers accept a broader brief but with greater resources to draw upon.
- Redistribution of resources by those persons with access to budgets.
- Aim is functional life valued by client.
- Greater adherence to comorbid/holistic approach including other disability recognition.
- Greater support for carers.
- More teamwork, especially with general practitioners. Interacting with different groups and attending multi-disciplinary case conferences (inclusion of all players). Work made more rewarding through these mechanisms.
- More flexibility, collaboration, consultation and communication. More inclusive of others
- and less competition. Stronger participation in partnerships and networks and increased formal intersectoral communication.
- More access to information.
- Advocacy for prevention and early intervention.
- Support the involvement of children, school, families and adolescents.
- Services available in different places and collocation of drug and alcohol and mental health services.
- New drug treatments.
- Brief intervention/Cognitive Behavioural Therapy.

Communication lines

- The communication lines between mental health, drug and alcohol and primary care (i.e. general
- practitioners and other community support services) are described as:
- Service agreements and Memorandums of Understanding will be in place. Clinical pathways.
- Support by computers/other technology.
- 24-hour telephone consultation.
- Interaction with a broad range of community agencies and government departments. Effective, comprehensive and ongoing communication - between staff.
- Professional development for all staff - non-government organisations, general practitioners, corrections staff and police - about each others' collaborative roles.
- Whole-of-government approach - national strategy - state government - (area boards) local stakeholders steering committee to ensure communication sharing information and monitor progress - consumers and carers, non-government organisations, local government, primary carers, police and school, community support groups, drug and alcohol, mental health, researchers (Outcomes).
- Consumer and carer advisory groups in place.

- Media policy (code of ethics) review and liaison.
- Comorbidity health promotion - health education.
- Video conferencing.
- Joint staff development.
- Minimum data set.
- Staff rotation.
- Joint research,
- Co-location.
- Joint conferences.
- Clinicians on call.

Training

- Emphasis on interdisciplinary and inter service.
- More ongoing commitment to service and staff development.
- Compulsory generalist training and specialist colleges and career paths, for nurses, medical officers and others.
- Upskilling within shared care models, cross training between services, multidisciplinary training across sectors (primary, secondary and tertiary), general practitioners, primary care, education and resources for family, other workers, eg housing, integration model in undergraduate education (all disciplines).
- More support.
- Increased specialist education.
- Engagement in level service delivery.
- More involvement in individual case planning.
- Drug and alcohol and comorbidity issues in core (mandatory) undergraduate training across all relevant professional streams - non-govemment organisations, religious, refuge, police (knowledge).
- Specific basic skills training in individual and conjoint treatment early recognition, assessment etc, management or treatment planning.
- Culturally sensitive training (especially in brief, effective, early intervention) for indigenous groups and people from non-English-speaking backgrounds.
- Greater flexibility in delivery of education to rural and remote, eg telehe . alth etc.
- National competencies - psychiatry, mental health nursing, psychology, drug and alcohol workers, teachers, general practitioners, medical school, occupational therapy, social work; competencies for assessment, prevention, relapse prevention, brief intervention.
- Client self-directed learning.
- Consumer perspective.
- University - diploma and masters, college, distance education, self directed learning and continuing education.

Significant changes for carers and people with comorbid conditions which made a difference to their lives

- Support services available along the continuum of care - continuity of care. Improved

- referral and linking.
- Barriers overcome.
- Have a purpose now - no more boredom.
- Hope.
- Access to good information.
- Changes in cultural barriers between service providers, consumers and carers. Consumers and carers are included as part of treatment plan and are less isolated. Relationship is a partnership.
- Increased housing, employment, social interaction and health.
- Funding changes.
- Range of support strategies, eg crisis and respite care, access to quality prompt consultation/advice/counselling. Detoxification and rehab accommodation for young adolescent people with something to do.
- Integrated or co-case management - enhanced services. Reduction of stigma and discrimination.
- Increased and improved access to services and treatment. Improved referral and linking.

The two main barriers that have been overcome

- Falling between services.
- Attitudes and behaviours.
- Ownership and skills.
- Exclusivity.
- Linkages across sectors (housing and education).
- Fragmentation.
- Consumers and carers no longer isolated.
- Integration and collaboration in approach by all stakeholders especially drug and alcohol and mental health with increased respect across disciplines.
- Decreased personal, professional and agency discrimination against patients/clients.
- Rejection of exclusive and confronting models.

Appendix 5

Definitions and descriptions

These descriptions are taken from Andrews, Hall, Teesson and Henderson 1999, *The Mental Health of Australians,* Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care.

Anxiety disorders

Being anxious does not qualify one for an anxiety disorder. Diagnosis of an anxiety disorder requires that specific symptoms are present over a period of time and that these symptoms are accompanied by changes in thoughts, emotions and behaviour that substantially interfere with the person's ability to love and work.

Persons who have **panic** disorders have repeated experiences of sudden, sometimes unexpected, attacks of disabling fear or anxiety. **Agoraphobia** is the avoidance of situations in which either help is not available, or in which escape impossible, for fear that a panic attack may occur. **Social phobia** is the avoidance of situations in which one is perceived to be the centre of attention in case of embarrassment or humiliation. **Generalised anxiety** disorder refers to months of irrational worry about everyday things. **Obsessive-compulsive** disorder is characterised by repeated, intrusive, repugnant thoughts about blasphemy, contamination or harm, and by repeated acts to neutralise the anxiety generated by the obsessions (eg repeated checking or hand washing). Persons with **post traumatic stress** disorder suffer from the continuing intrusion of emotionally laden memories of a previous traumatic event.

Substance use disorders

Consumption of alcohol or drugs does not qualify a person for a substance use disorder. **Substance use disorders** (which include harmful use and dependence on alcohol or other drugs) typically involve impaired control over the use of alcohol or other drugs. Obtaining, using and recovering from alcohol or drugs consumes a disproportionate amount of the user's time, and the user continues to drink alcohol or take drugs in the face of problems that they know to be caused by them. They typically become tolerant to the effects of alcohol or drugs, requiring larger doses to achieve the desired psychological effect, and abrupt cessation of use often produces a withdrawal syndrome. Many experience other psychological and physical health problems, and their alcohol or drug use often adversely affects the lives of their spouses, children, and other family members, friends and work-mates.

An **ICD-10 Harmful Use** diagnosis requires a pattern of substance use that is causing damage to health. The damage may be physical (eg hepatitis from self-administration of injected drugs) or mental (eg depression secondary to heavy consumption of alcohol).

An **ICD-10 Dependence** diagnosis requires the presence of three or more indicators of alcohol or other drug dependence. These indicators are:

- a strong desire to take the substance;
- impaired control over drug use;
- the occurrence of a withdrawal syndrome on ceasing or reducing use;
- tolerance to the effects of alcohol or other drugs, as indicated by needing larger doses to
- achieve the desired psychological effect;
- obtaining, using and recovering from alcohol or other drugs take up a disproportionate
- amount of the user's time; and
- the user continues to drink alcohol or take other drugs despite associated problems.

The problems should have been experienced for at least one month during the previous year to qualify for a diagnosis.

Depression

The World Health Organization's international Classification of Disease - 10th revision (ICD-10) lists a set of criteria that are necessary for a diagnosis to be made. For example, the criteria for mild depressive episode would be satisfied if the person reported two weeks of abnormally depressed mood, with loss of interest and decreased energy, **plus** one of the following symptoms:

- loss of confidence,
- excessive guilt,
- recurrent thoughts of death,
- poor concentration,
- agitation or retardation,
- sleep disturbance, or
- change in appetite.

Severe depression requires that five of the eight symptoms are present.