

PROMOTION, PREVENTION AND
EARLY INTERVENTION FOR MENTAL HEALTH IN
GENERAL PRACTICE

Monograph 1

**Conceptual framework for PPEI and
applications in general practice**

Overview of the literature

Developed by

Professor Debra Rickwood

**Promotion, Prevention and Early Intervention for Mental Health in
General Practice**

Series Editors:

Anne O'Hanlon, Abbie Patterson and Jennie Parham
Australian Network for Promotion, Prevention and Early Intervention for Mental Health
(Auseinet)

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**Auseinet
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Auseinet is funded by the Australian Government Department of Health and Ageing and located at Flinders University. Auseinet supports a national network of people in a wide variety of settings to access knowledge and stimulate discussion on issues relating to promotion, prevention and early intervention for mental health and suicide prevention across the lifespan.

Australian Divisions of General Practice (ADGP) – now known as Australian General Practice Network (AGPN) - is the peak national body representing the Divisions of General Practice across Australia. Its mission is to provide leadership and support for the Divisions of General Practice to achieve quality and vitality in primary health care.

The opinions expressed herein are those of the authors and not necessarily those of the Australian Government Department of Health and Ageing.

The editors and authors disclaim any responsibility for the consequences of using this report for clinical purposes.

This monograph can be downloaded from the Auseinet website www.auseinet.com

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Foreword to monograph series

General practice is a key component of the mental health workforce and this has been reflected in a range of national mental health policies over the past seven years. These include: *National Mental Health Plan 2003-2008*; *National Action Plan for Promotion; Prevention and Early Intervention for Mental Health 2000*; the *Better Outcomes In Mental Health Care Initiative*; and the COAG *National Action Plan on Mental Health 2006-2011*. These developments at a national level have led to a process of reform of primary mental health care in Australia and have provided the impetus for general practice to have a greater role in mental health improvement.

Furthermore, general practice and primary care have been identified as important settings by several national mental health initiatives – *beyondblue*: the national depression initiative; *Mindmatters*: the national mental health promotion initiative in secondary schools; *COPMI*: a national initiative addressing the needs of children with parents who have a mental illness; and *headspace*: The National Youth Mental Health Foundation.

Auseinet is a national initiative funded by the Australian Government Department of Health and Ageing to support the implementation of promotion, prevention and early intervention (PPEI) approaches to mental health in a range of sectors and settings. Since 2000, Auseinet has been a key agency in driving the implementation of mental health PPEI in Australia. In 2003, Auseinet selected general practice as one of four priority sectors to invest in during its second phase of funding (2003-2007). This was consistent with the identification of general practice as an important setting for mental health PPEI activities in the *National Action Plan for Promotion, Prevention and Early Intervention for Mental Health*.

Over the past 4 years, Auseinet, in partnership with the Australian General Practice Network (AGPN), formerly the Australian Divisions of General Practice (ADGP), has undertaken a range of activities designed to build the capacity of the general practice sector to implement PPEI approaches. Activities undertaken as part of the *Promotion, Prevention and Early Intervention for Mental Health in General Practice* project have included a scoping study of PPEI in general practice (O'Hanlon, Wells & Parham, 2004), an audit of training programs that have PPEI content, and, most recently, the commissioning of external experts in the field to develop four Active Learning Modules for general practitioners (GPs).

The learning modules have been accredited by the Royal Australian College of General Practitioners (RACGP), the General Practice Mental Health Standards Collaboration (GPMHSC) and the Australian College of Rural and Remote Medicine (ACRRM). Each module comprises an evidence-based overview of the literature and a related training program. Throughout the project we have maintained an inclusive view of the 'general practice setting' (i.e. GPs, other health professionals and Divisions), but for the purpose of training and accreditation, the modules in the first instance have been designed specifically for GPs.

We believe, however, that there is value in making the overviews of the literature available to a much broader audience. Therefore, we are presenting the overviews as a monograph series that we think will be of interest to the well-established network of people and organisations that support PPEI approaches to mental health.

The *Promotion, Prevention and Early Intervention for Mental Health in General Practice* monograph series comprises:

Monograph 1. Conceptual framework for PPEI and applications in general practice: Overview of the literature (Professor Debra Rickwood);

Monograph 2. Managing the impact of separation and divorce on children: Overview of the literature (Australian Psychological Society);

Monograph 3. Child behaviour: Overview of the literature (Centre for Community Child Health); and

Monograph 4. Older adults: Overview of the literature (The New South Wales Institute of Psychiatry).

This series provides an overview of the best available evidence to date on the conceptual framework for PPEI and its application to children and older people, with specific reference to early identification of mental health problems, assessing risk factors and enhancing protective factors. The overviews also include interventions with individuals, parents, families and carers where appropriate, that can be implemented in the general practice context.

The monograph series is available on the Auseinet website www.auseinet.com.

We would like to acknowledge the many people who have been involved in bringing this phase of the *Promotion, Prevention and Early Intervention for Mental Health in General Practice* project to fruition.

We thank foremost the authors of the monographs: Professor Debra Rickwood; the Australian Psychological Society (Melbourne); the Centre for Community Child Health (Royal Children's Hospital, Melbourne); and The New South Wales Institute of Psychiatry (Sydney). We also wish to acknowledge the input of their respective Reference Groups to the literature overviews and to the modules as a whole.

Thank you to the *Promotion, Prevention and Early Intervention for Mental Health in General Practice* Project Management Group for providing general direction for the project and identifying the priority areas for the evidence-based reviews and training programs. The group reflected the interests of the project partners, Auseinet's own Management Committee, general practitioners, mental health experts, and accrediting bodies. Members during the course of the project were: Professor Lyn Littlefield, Professor Graham Martin, Dr. Chris McAuliffe, Ms. Lesley McBride, Ms. Anne O'Hanlon, Ms. Jennie Parham, Ms. Lynette Pearce, Mr. Phil Robinson, Dr. Darcy Smith, Mr. Julian Thomas, Ms. Tracy Thompson and Ms. Leanne Wells. Thanks to those members who peer reviewed and provided insightful feedback on earlier drafts of the overviews.

We would also like to acknowledge Ms. Lesley McBride for her role in coordinating the development of the overviews and training programs while she was with Auseinet. Our thanks also to Ms. Jill Knappstein from Auseinet for assisting with proofing and layout of the monograph series.

The Editors

CONTENTS

1. Introduction	1
1.1 Aim	1
1.2. Background and rationale	1
1.3 National policy background	2
1.4 Definitions	4
1.5 Spectrum of interventions for mental health	4
2. Methodology	8
2.1 Literature search	8
2.2 Levels of evidence	8
3. Risk and protective factors	11
4. Overview of the evidence	17
4.1 Mental health promotion	17
4.2 Prevention of mental illness	18
4.3 Early intervention.....	22
5. PPEI and general practice	24
5.1 International initiatives	24
5.2 Australian initiatives.....	25
Survey of PPEI activities in general practice (Auseinet and ADGP)	25
Primary Mental Health Care Australian Resource Centre	26
Help-seeking and early intervention.....	26
Your Mental Health and Alcohol: Managing the Mix	27
MindMatters <i>Plus</i> GP	28
Better Outcomes in Mental Health Care	28
The BEACH survey of general practice	29
Children of Parents with a Mental Illness (COPMI)	29
Early Psychosis Prevention and Intervention Centre (EPPIC)	29
Triple P – Positive Parenting Program	29
Keep Yourself Alive - Suicide Prevention Program for GPs.....	29
SPHERE	29
6. Dissemination and implementation	30
7. References	31

1. INTRODUCTION

1.1 Aim

This resource provides an overview of the literature on promotion, prevention and early intervention for mental health (PPEI). It defines these terms and describes the conceptual framework from which they derive. The most recent evidence for the effectiveness of these approaches to reducing the burden and impact of mental disorders is also presented, with special emphasis on applications in general practice.

An analogy is found in dentistry. One hundred years ago, this country faced a crisis in the health of its citizens because of the high prevalence of dental caries and tooth decay. Rather than dismiss such needed care as a luxury that would be treated only as a person's finances allowed, the country implemented a public health effort based on epidemiology and the efficacy of different interventions. The result was a comprehensive system, composed of policy components (fluoride in water systems), universal ongoing preventive care (government campaigns to support use of toothpaste and daily brushing), and specialised care for particular needs (fillings to stop further decay, braces to straighten teeth). No one would contend that a 12-session training program on brushing teeth at age five should be adequate to prevent all future tooth decay. Nor would it be expected that only one of these strategies would be adequate to solve the problem. The focus was not on which one of these components was the most important. Rather, the effort combined all approaches to address the public health problem while recognizing differences in need among the populace. (Tolan & Dodge, 2005, p.602)

1.2. Background and rationale

Mental health is an important issue for all of us. Our mental health affects everything we do and mental health problems and mental illness are a serious concern for many people. Most of us will experience a mental health problem at some time in our life, and about one in five people will experience a mental illness. Mental health problems and mental illnesses cause a great deal of suffering to those experiencing them, as well as their families, friends and communities. Furthermore, these problems appear to be increasing. According to the World Health Organization (WHO), depression will be one of the biggest health problems worldwide by the year 2020; unipolar depression will be the third-leading cause of disability-adjusted life years and self-inflicted injuries will be the tenth leading cause (Murray & Lopez, 1997).

It is estimated that close to one in five people in Australia will be affected by a mental disorder at some stage in their lives. This estimate comprises 18 percent of adults (McLennan, 1998) and 15–20% of children and adolescents (Zubrick, Silburn, Garton et al., 1995). Over the next 20 years, it is predicted that mental illness will have increased to almost 15% of the global burden of disease or years lived with disability (Murray & Lopez, 1996).

Most of the major mental health problems and mental disorders — anxiety, depression, substance use, eating disorders, and suicidal ideation — have their peak period of incidence during late childhood and adolescence (Commonwealth Department of Health and Aged Care & AIHW, 1999). The peak incidence period for psychosis follows in early adulthood (EPPIC, 1997). Half of all lifetime cases of mental disorders start by 14 years of age, and three quarters by 24 years of age (Kessler, Berglund, Demler et al., 2005). Adolescence and young adulthood are, therefore, critical periods in the lifespan for mental health and require a special focus.

Providing effective treatments for people who are experiencing mental health problems and mental illnesses is vitally important. However, taking this approach alone will not help to stop the growing burden of mental ill health. We also need to prevent problems from developing in the

first place and find ways to build up the resilience and mental health of all people. We must also provide effective treatments for people at the earliest opportunity, when they are showing the first signs of mental health problems and mental illness, so that they do not go on to develop disabling and long-term illnesses.

The notion of promotion and prevention to reduce mental illness and other forms of disadvantage arose out of the social movements of the late 19th and early 20th Centuries. Notably, promotion and prevention were major objectives of legislation founding the National Institute of Mental Health in the United States in the 1940s. However, until recently, the field was criticised for having a weak scientific evidence base and being poorly conceptualised. This has now changed: the conceptual framework for promotion and prevention has been clearly defined and the evidence base has been substantially strengthened, and is increasingly being built (e.g., Coie, Watt, West et al., 1993; Cowen, 1994; Durlak, 1997; Mrazek & Haggerty, 1994). For example, by the end of 2002, the literature included over 800 outcome studies on promotion and prevention, and 250 more on drug abuse prevention (Weisz, Sandler, Durlak & Anton, 2005).

1.3 National policy background

In response to the high prevalence and heavy burden of human suffering imposed by mental health problems and mental illness, the Australian Government, in liaison with the states and territories and key stakeholders, has developed a number of initiatives recognising mental health as one of the national priority health areas. The *National Mental Health Strategy* has provided an overarching policy direction that has guided initiatives for the past 14 years. Several major national documents have been produced by the Department of Health and Ageing to support the *Strategy*, including the:

- *Mental Health Statement of Rights and Responsibilities (Australian Health Ministers, 1991);*
- *National Mental Health Policy (Australian Health Ministers, 1992);*
- *National Mental Health Plan (Australian Health Ministers, 1992);*
- *Second National Mental Health Plan (Australian Health Ministers, 1998);*
- *Mental Health Promotion and Prevention National Action Plan (Commonwealth Department of Health and Aged Care, 1999);*
- *National Action Plan for Promotion, Prevention and Early Intervention for Mental Health (Commonwealth Department of Health and Aged Care, 2000a);* and
- *National Mental Health Plan 2003-2008 (Australian Health Ministers, 2003).*

Throughout the *National Mental Health Strategy*, it has been increasingly realised that activities related to mental health promotion, prevention of mental health problems, and early intervention in mental illness, have major advantages for both individuals and the population in general. An international movement around promotion and prevention to lessen the global burden of mental ill health has been supported by an emerging evidence base of the effectiveness of preventive measures for mental health. The potential long-term cost savings from taking a preventive approach also have been recognised.

Acknowledging that reducing the burden of mental illness would not occur without supplementing treatment approaches with longer-term prevention interventions, the *Second National Mental Health Plan* (Australian Health Ministers, 1998) included promotion and prevention as a priority area. Specifically, the aims put forward under this priority area were to:

- improve public health strategies to promote mental health;
- reduce incidence and prevalence of mental disorders and associated disability (including depression);
- reduce numbers of suicides;
- increase consumer and carer satisfaction with clinicians' responses to early warning signs of mental disorders; and
- improve mental health literacy at all levels.

Two documents were developed to articulate the PPEI approach for Australia, which together provide the policy and conceptual frameworks for PPEI:

National Action Plan for Promotion, Prevention and Early Intervention for Mental Health [Action Plan 2000] (Commonwealth Department of Health and Aged Care, 2000a); and

Promotion, Prevention and Early Intervention for Mental Health – A Monograph [Monograph 2000] (Commonwealth Department of Health and Aged Care, 2000b).

To support implementation of the PPEI approach, the Australian Network for Promotion, Prevention and Early Intervention for Mental Health (Auseinet) was commenced in 1997. This organisation has the current aims of informing, educating and promoting good practice in a range of sectors and the community about mental health promotion, prevention, early intervention and suicide prevention across the lifespan (see www.auseinet.com).

Australia has been an 'early adopter' (Martin, 2005) and pioneer in the field of PPEI. In fact, it has been suggested that Australia may be 10 years ahead of much of the rest of the world in prevention (Parham, 2005). This is evident in the many national policies and initiatives which support promotion and prevention, as shown in Table 1.

Table 1. Current national strategies and initiatives supporting PPEI in Australia

<i>National strategies</i>	<i>National initiatives</i>
LIFE: The National Framework for Preventing Suicide and Self-Harm	Auseinet MindMatters
National Strategy for Aboriginal and Torres Strait Islander Peoples Social and Emotional Wellbeing 2004-2009	Mindframe National Media and Mental Health Initiative
Framework for the Implementation of the National Mental Health Plan 2003-2008 in Multicultural Australia	<i>beyondblue</i> : the national depression initiative Better Outcomes in Mental Health Care Initiative
National Drug Strategy	COPMI National Project ResponseAbility
National Crime Prevention Strategy	CommunityMindEd

Source: Parham (2005, p.3)

1.4 Definitions

Mental health refers to how a person thinks, feels and acts in their day-to-day life. It is how people feel about themselves, their lives and the other people in their lives. It includes how a person handles stress, relates to other people, and makes decisions. It has been defined as a state of emotional and social wellbeing that enables people to undertake productive activities, experience meaningful interpersonal relationships, adapt to change and cope with adversity (WHO, 1999). Mental health is not the absence of illness, but rather, the ability to cope and feel positive about people and events in life.

A **mental illness or disorder** is a health problem that significantly interferes with a person's thoughts, feelings or social behaviour. It is diagnosed according to standardised criteria, usually the DSM-IV (American Psychiatric Association, 2000) or the ICD-10 (WHO, 1992). Some of the major types of mental illness are depressive disorders, anxiety disorders, psychoses and eating disorders.

A **mental health problem** also interferes with a person's thoughts, feelings and social behaviour, but to a lesser extent than a mental illness. Mental health problems are more common and include the mental ill health that may be temporarily experienced as a reaction to the stresses of life. While mental health problems are less severe than mental illnesses, they still can have a significant impact on a person's future opportunities and sense of wellbeing, and may develop into a mental illness if not effectively treated.

1.5 Spectrum of interventions for mental health

The *Second National Mental Health Plan* recognised that efforts across the entire range of mental health interventions were required to maximise mental health outcomes, and that special emphasis needed to be placed on promotion and prevention. To help to describe and explain this approach, the mental health intervention spectrum, originally developed by the Institute of Medicine (Mrazek & Haggerty, 1994), was adopted as national policy. This spectrum portrays the continuum of mental health interventions within a population health framework.

A **population health framework**, as applied to mental health, encompasses the mental health status and mental health needs of the whole population. Mental health is defined as being multi-faceted, resulting from the complex interplay of many personal, local and global factors. A population mental health perspective promotes health and prevents illness through strategies involving individuals, communities and whole societies. It aims to provide a comprehensive range of high-quality, integrated health and illness care services, while striving to achieve equity of health status, health resource allocation, and health service access and utilisation across the population. It recognises that resources are limited, however, and that choices must be made about which services can be offered to whom, and that resource allocation decisions must be based on evidence and explicit values rather than anecdote, custom or prejudice.

The spectrum has since been revised in response to increasing understanding of its different segments, and a revised version is presented in Figure 1. The spectrum recognises that there are mental health interventions appropriate for *all* people — for those who are well, for those who are at risk of mental health problems, as well as for those people experiencing or who have experienced mental health problems and mental illness.

Action Plan 2000 notes that the model presented in Figure 1 is an idealised conceptualisation. The distinctions between the different types of interventions are not as clearly delineated in the field and many effective interventions are multi-modal and cover more than one segment of the model.

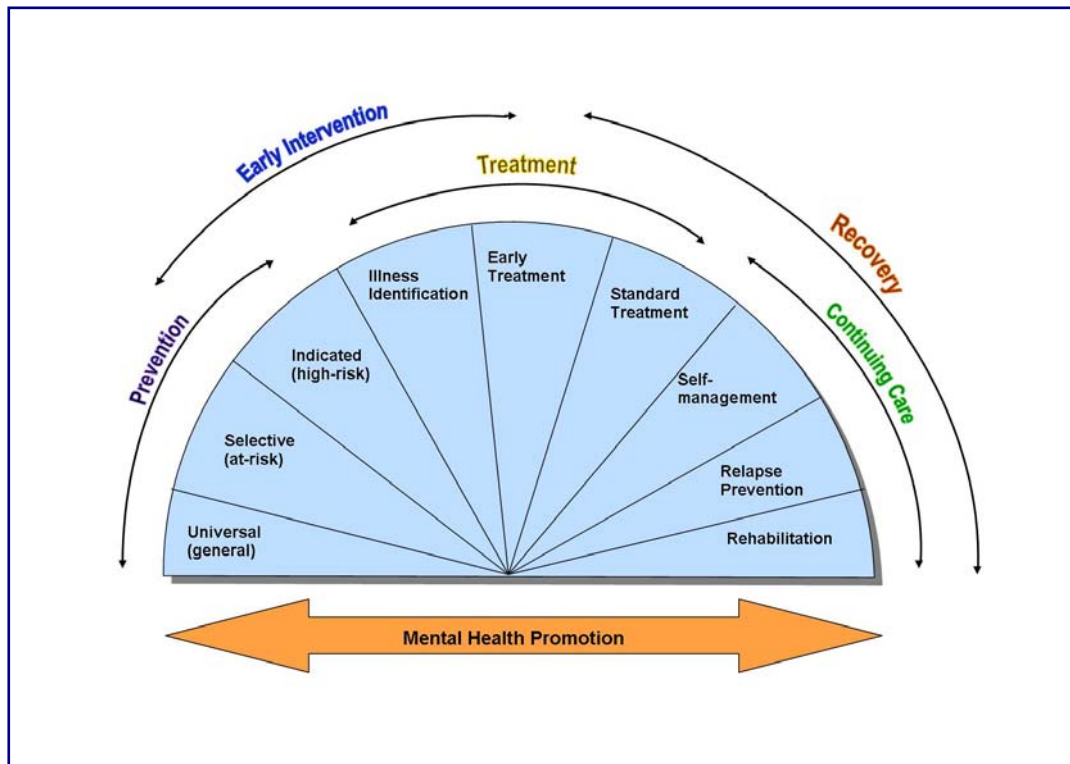


Figure 1. Spectrum of interventions for mental health (revised) (Rickwood, 2006)

Mental health promotion is about improving wellbeing for all people, regardless of whether they are currently well or ill. It is about optimising people’s mental health by developing environments that are good for us all. Mental health is affected by the events that happen in our normal day-to-day lives, as well as by the stressful events that inevitably occur from time to time.

Mental health can be promoted by making sure that public policies support the social and emotional wellbeing of individuals and groups. All environments — social, physical, economic, and cultural — need to be supportive of mental health. Community life is important and communities must be empowered to take the actions that they, themselves, decide are required to build their capacity to support their members. All people should be supported to develop skills to understand, enhance and respond to their mental health needs. Furthermore, mental health services must acknowledge that they have a responsibility for promoting the wellbeing of individuals and communities, as well as treating illness.

Interestingly, health promotion was not included in Mrazek and Haggerty's (1994) original spectrum of interventions. However, due to growing realisation that enhancing the strengths of individuals, families, communities, and social systems is associated with prevention of later problems, it has been added to the revised spectrum.

Much of the work in mental health promotion has been conducted within the framework of the *Ottawa Charter for Health Promotion* (WHO, 1986) and the *Jakarta Declaration* (WHO, 1997). Key components of landmark documents are:

1. *Building healthy public policy* (emphasising the role of all sectors in health outcomes) – for example, review of public housing policies to ensure that all people have access to safe, secure and affordable housing; media stigma reduction programs such as SANE StigmaWatch.

2. *Creating supportive environments in all settings* – for example, public transport that is accessible by all members of a community and links people with the places they need to go.
3. *Strengthening community action* – for example, community action groups open to all members of the community that are able to determine goals for a community and influence local planning and policy.
4. *Developing personal skills* – for example, provision of mental health-related information in formats suitable for all members of a community.
5. *Reorienting services toward promotion, prevention and early intervention* – for example, active consumer participation in the delivery of local health and mental health services.

Prevention refers to interventions that have the potential to prevent the onset of a mental health problem or mental illness. Prevention interventions require the identification of risk and protective factors for mental health. These are occurrences in everyday life that can affect mental health. **Risk factors** are occurrences that increase the likelihood that a mental health problem or mental illness will develop (such as long-term stressors), while **protective factors** are those that decrease the likelihood (such as good social support). Prevention interventions can be targeted to population groups identified according to the level of risk. There are three different levels of risk applied:

1. *General or universal* – These are interventions that are targeted at the general public or a whole population group. No specific risk factors have been identified and the intervention is aimed at preventing mental health problems for everyone. Interventions are designed to reduce risk factors and/or increase protective factors that are likely to be relevant to the whole population
– for example, parenting programs provided for all parents; pre-school education provided for all pre-school children; exercise programs for all age and fitness levels; anti-bullying programs in schools and workplaces; and pre-natal support programs.
2. *At risk or selective* – These are interventions aimed at individuals or population groups whose risk of developing a mental health problem or mental illness is higher than for the general population. Interventions are designed to reduce risk factors and/or increase protective factors for a population group identified as being at higher risk
– for example, ongoing support for children of parents with a mental illness; support groups for people who have recently been bereaved; providing mental health-related information for people with physical illnesses; and post-natal support programs.
3. *High risk or indicated* – These interventions are for people who are at very high risk of developing a mental health problem or mental illness. They are designed to reduce risk factors and/or increase protective factors for people at imminent risk of mental ill health
– for example, support for refugees; counselling and support for victims of violence; support programs for people recently released from prison; suicide prevention programs; support programs for people with chronic pain and chronic illness; and post-natal support for mothers with birth complications.

Early intervention refers to interventions appropriate for people beginning to show the early signs and symptoms of a mental health problem and people developing or experiencing a first episode of mental illness. For people at very high risk and showing early signs and symptoms, early intervention aims to prevent the progression to a diagnosable illness. For people experiencing a first episode of mental illness, early intervention aims to reduce the impact of the mental illness in terms of its duration and the damage it may cause to the person's life, and also to foster hope for future wellbeing.

Examples of early intervention include:

- High risk – providing mental health information and support in alcohol and drug treatment settings; outreach services for homeless people; parenting and school support for children with behavioural problems; respite care and other support programs for carers.
- Identification – screening for post-natal depression; screening for depression in general practice settings; mental health assessments in drug and alcohol treatment and criminal justice settings.
- Early treatment – Early Psychosis Prevention Intervention Centre (EPPIC: McGorry, Edwards, Mihalopolous et al., 1996); hospital at home services; assertive outreach programs.

2. METHODOLOGY

The research and literature supporting PPEI is growing at a rapid rate and becoming increasingly diverse. It is multi-disciplinary, ranging from health promotion and community development to clinical and psychiatric practice. The body of evidence comprises clinical and experimental research as well as the essential contribution of lived experience.

Identifying relevant evidence can be difficult, however. For example, in a recent review of the health effects of social interventions, it was reported that only 4 of the 69 relevant studies were found through a database search (Ogilvie, 2005). Instead, a much more labour-intensive approach was required, including contacting experts and relying on key resources.

2.1 Literature search

A database search was undertaken as part of the methodology for this overview. Because of the large number of articles generated, only those that comprised reviews, meta-analyses or major studies in the area were pursued. Furthermore, the search was restricted to the past five years. The databases searched included: via EBSCO — PsycINFO, PsycARTICLES, Medline, preCINAHL, CINAHLplus, Psychology and Behavioral Sciences Collection, Cochrane Library, Academic Search Premier, and Clinical Reference Systems; via Infotrac — Expanded Academic ASAP, Health Reference Centre Academic; and Informat. Keywords used were: 'mental health', 'mental illness', 'mental health promotion', 'prevention' and 'early intervention' in combination with 'evaluation', 'evidence base', 'review', 'meta-analysis', 'efficacy', 'effectiveness' and also 'primary care', 'general practice', 'professional practice', 'community care' and 'doctor training'.

The database search was augmented by examination of key resources, key mental health websites, and information obtained from experts in the field.

The evidence presented in this overview of the literature is not exhaustive, but rather an overview of the main current themes.

2.2 Levels of evidence

Building the evidence base for PPEI is complicated by lack of consensus, both within and across disciplines, as to what criteria should be used to identify beneficial interventions and what interventions meet the standards (Weisz et al., 2005). This is compounded by the wide range of stakeholders involved in the field, which includes individuals, families, communities, service providers from all sectors, policy makers across all levels and government departments, and researchers from a range of disciplines.

The National Health and Medical Research Council (NHMRC) has developed a system of classifying types of evidence that can be applied to the development of clinical practice guidelines.

Table 2 presents the types of evidence that make up each level. The highest level of evidence is from a systematic review of all relevant *randomised controlled trials (RCT)* — studies in which people are randomly assigned to intervention or control groups. These reviews are often undertaken through use of a technique called *meta-analysis*. The next level of evidence is at least one well-designed RCT. It is only through random assignment to groups and ensuring that the intervention and control groups differ only on the intervention condition that a causal relationship between the intervention and outcome measures can be established. For this reason, the RCT is viewed as the 'gold standard' of evidence. Level III evidence comes from experimental designs that cannot achieve full randomisation, while Level IV comprises designs without a control group that did not receive the intervention.

Table 2. Levels of evidence

Level	Type of evidence
I	Evidence obtained from a systematic review of all relevant randomised controlled trials (RCT)
II	Evidence obtained from at least one properly designed RCT
III-I	Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method)
III-II	Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case control studies, or interrupted time series with a control group
III-III	Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group
IV	Evidence obtained from case series, either post-test or pre-test and post-test

Source: NHMRC (1999, p.56)

To evaluate PPEI interventions, different kinds of evidence are needed at different stages of program development, including evidence of program effects under optimal conditions (efficacy) and natural conditions of delivery (effectiveness), and program sustainability over time and when delivered to large populations (Kellam & Langevin, 2003).

Efficacy studies, usually RCTs, are undertaken under experimental or ‘controlled’ conditions. *Effectiveness* studies test the ‘real world’ impact of interventions that have been shown to be efficacious, and are imperative to determine the generalisability of controlled studies in the real world — interventions conducted under highly controlled conditions may not translate well into the uncontrolled environment that is the real world.

Both types of evaluation have limitations. Efficacy studies provide limited information that, while important, does not yield information related to all the outcomes of interest (Aveline, 1997). Effectiveness studies can easily be confounded by uncontrollable real world factors. These factors include the difficulty in describing, measuring, and maintaining the content and quality of multimodal interventions and in distinguishing between specific and non-specific, and effective and ineffective, treatment elements.

Meta-analysis is a technique whereby the results of multiple studies are pooled to provide an overall picture of the average intervention effect. This is measured through an estimate of effect size (ES), which is calculated by comparing the post-intervention difference between the intervention and control group, divided by the standard deviation of the outcome measure used. This yields an estimate of magnitude of the intervention effect. An ES of 0.20 is a generally considered a ‘small’ effect, 0.50 is a ‘medium’ effect, and 0.80 denotes a ‘large’ effect (Cohen, 1988). It should be noted, however, that these are statistical interpretations and do not convey any sense of the practical significance of an intervention. For example, very small statistical effects can have a major public health benefit if they address a factor that is highly prevalent or of considerable public importance. Furthermore, the results from meta-analyses tend to be found to be dependent on the methodological approaches taken by and quality of the studies reported.

There are some significant problems that arise in trying to apply these types of judgements to evidence for PPEI interventions. An emphasis on RCTs and meta-analysis is particularly inappropriate for health promotion (Rada, Ratima & Howden-Chapman, 1999). Health promotion interventions are generally not focussed on individuals, but rather are multifaceted

and focused at multiple levels including community. The foundations of health promotion come from a wide range of disciplines, and its aims and activities are extremely varied. The positivist traditions of medical research are not generally appropriate, and working with people within a participatory and empowering approach is prioritised rather than individual behaviour change (Lahtinen, Koskinen-Ollonqvist, Rouvinen-Wilenius et al., 2005).

Consequently, researchers have begun to develop alternative quality criteria for this area. For example, Lahtinen et al. (2005) argue that the criteria should comprise judgements of: relevance, values, innovation, discourse, practice, action, context, scientific quality, defined scope, anticipated outcomes, operationalisation, feasibility, process evaluation, and documentation and dissemination. The research should be judged as to whether each of these criteria has been fully fulfilled, fulfilled to some extent, or not fulfilled at all. Similarly, the RE-AIM model has five dimensions: reach, efficacy, adoption, implementation and maintenance (Glasgow, Vogt & Boles, 1999). In general, it has been argued that while systematic standards must be adopted, the taxonomy of standards should be grounded in a salutogenic values approach (Judd, Frankish & Moulton, 2001).

Importantly for the mental health field, multiple kinds of evidence need to be valued, including more qualitative and narrative forms, and especially lived experience (Waddell & Godderis, 2005). However, combining different approaches can be challenging: for example, the relevance, ethics and position of qualitative evaluation research can be a vexed issue within the context of a more quantitative design such as a RCT (Riley, Hawe & Shiell, 2005).

The potential consequences of applying a scientifically rigorous approach to building the evidence base for some population groups, as well as types of interventions, must be acknowledged. Importantly, this approach can limit the application of interventions for minority population groups and groups with unique needs. For example, it has been argued that insisting on evidence-based interventions can exacerbate health inequalities, because 'innovative interventions for disadvantaged and minority groups are generally not included among programs considered to have 'best evidence' for effectiveness' (Hawe et al. cited in Hunter & Garvey, 1998, p.7). This applies particularly to Aboriginal and Torres Strait Islander communities, where the efficacy and effectiveness of an intervention is affected by a complex interplay of social, environmental and psychological factors that cannot be deconstructed to fit within an experimental design.

3. RISK AND PROTECTIVE FACTORS

To implement PPEI, a population health approach is required. This approach recognises that the influences on mental health occur in the events and settings of everyday life; that mental health and mental ill health result from a complex combination of events and conditions that take place in biological, individual-psychological, social-psychological, and societal-structural domains, and that the interplay between the individual and their environment is critical.

Fundamental to the population health approach is recognition of risk and protective factors for mental health:

- **Risk factors** increase the likelihood that a disorder will develop and exacerbate the burden of existing disorder. They indicate a person's vulnerability, and may include genetic, biological, behavioural, socio-cultural and demographic conditions and characteristics.
- **Protective factors** reduce the likelihood that a disorder will develop by reducing exposure to risk or the effect of risk factors. They give people resilience in the face of adversity and moderate the impact of stress. Protective factors thereby reduce the likelihood that a disorder will develop. Protective factors can be truly protective or compensatory: some protective factors reduce exposure to risk, while others compensate for such exposure.

Table 3 presents the risk factors and Table 4 the protective factors identified in *Monograph 2000*. However, it is noted that while the available evidence shows that these factors are *associated* with mental health outcomes, the strength of association and level of evidence for 'causation' varies. Consequently, no *causal* relationship can be assumed for these factors; for some individuals there will be no impact of any particular factor or combination of factors, while for other people a particular factor or combination of factors may have a strong impact on their mental health. Nevertheless, these factors are increasingly being recognised for their potential influence on mental health. In particular, high risk is indicated by an accumulation of risk factors, alongside a low level of protective factors (Rutter, 1985).

Of major significance for the development of interventions to improve mental health is the realisation that most of the protective and risk factors for mental health lie *outside* the main ambit of mental health services — in socio-economic and socio-cultural conditions. Of equal importance is recognition that effective interventions related to these risk and protective factors have positive outcomes *beyond* the mental health domain. There are 'common causal pathways' from these factors to outcomes in the mental health, health, educational, correctional and community sectors (National Crime Prevention, 1999).

Table 3. Risk factors potentially influencing the development of mental health problems and mental disorders in individuals (particularly children)

Individual factors	Family/social factors	School context	Life events and situations	Community and cultural factors
Prenatal brain damage	Having a teenage mother	Bullying	Physical, sexual and emotional abuse	Socio-economic disadvantage
Prematurity	Having a single parent	Peer rejection	School transitions	Social or cultural discrimination
Birth injury	Absence of father in childhood	Poor attachment to school	Divorce and family breakup	Isolation
Low birth weight, birth complications	Large family size	Inadequate behaviour management	Death of family member	Neighbourhood violence and crime
Physical and intellectual disability	Antisocial role models (in childhood)	Deviant peer group	Physical illness/impairment	Population density and housing conditions
Poor health in infancy	Family violence and disharmony	School failure	Unemployment, homelessness	Lack of support services including transport, shopping, recreational facilities
Insecure attachment in infant/child	Marital discord in parents		Incarceration	
Low intelligence	Poor supervision and monitoring of child		Poverty/economic insecurity	
Difficult temperament	Low parental involvement in child's activities		Job insecurity	
Chronic illness	Neglect in childhood		Unsatisfactory workplace relationships	
Poor social skills	Long-term parental unemployment		Workplace accident/injury	
Low self-esteem	Criminality in parent		Caring for someone with an illness/disability	
Alienation	Parental substance misuse		Living in nursing home or aged care hostel	
Impulsivity	Parental mental disorder		War or natural disasters	
	Harsh or inconsistent discipline style			
	Social isolation			
	Experiencing rejection			
	Lack of warmth and affection			

Source: *Monograph 2000* (Commonwealth Department of Health and Aged Care, 2000b)

Table 4. Protective factors potentially influencing the development of mental health problems and mental disorders in individuals (particularly children)

Individual factors	Family factors	School context	Life events and situations	Community and cultural factors
Easy temperament	Supportive caring parents	Sense of belonging	Involvement with significant other person (partner/mentor)	Sense of connectedness
Adequate nutrition	Family harmony	Positive school climate	Availability of opportunities at critical turning points or major life transitions	Attachment to and networks within the community
Attachment to family	Secure and stable family	Prosocial peer group	Economic security	Participation in church or other community group
Above average intelligence	Small family size	Required responsibility and helpfulness	Good physical health	Strong cultural identity and ethnic pride
School achievement	More than two years between siblings	Opportunities for some success and recognition of achievement		Access to support services
Problem-solving skills	Responsibility within the family (for child or adult)	School norms against violence		Community/cultural norms against violence
Internal locus of control	Supportive relationship with other adult (for a child or adult)			
Social competence	Strong family norms and morality			
Social skills				
Good coping style				
Optimism				
Moral beliefs				
Values				
Positive self-related cognitions				

Source: *Monograph 2000* (Commonwealth Department of Health and Aged Care, 2000b)

More recently, many of the risk and protective factors proposed by *Monograph 2000* have been corroborated. For example, the research literatures on anxiety, depression and internalising problems have provided evidence for the risk indicators, mechanisms and protective processes presented in Table 5.

Most recently, the WHO has identified the factors presented in Table 6 as being major socioeconomic and environmental determinants of mental health. These are macro-level factors, such as poverty, war and inequity, which are particularly relevant to mental health promotion. Especially evident is the increasing realisation and acceptance of the psychosocial impact of inequality and consumerism on individual, family and community wellbeing.

Table 7 presents risk and protective factors that are more specific and individually-focussed that have been identified by WHO (2004).

Table 5. Potential risk and protective indicators, mechanisms and processes identified in literature on the development of emotional problems

<i>Child characteristics</i>	<i>Environmental influences</i>
<p>Temperament (behavioural inhibition and/or high neuroticism/negative affectivity)</p> <p>Biological/genetic influences (neurotransmitter dysregulation, nervous system reactivity to stress)</p> <p>Social difficulties (low trust, poor communication and conflict negotiation, social withdrawal, interpersonal dependence, peer rejection)</p> <p>Age (pubertal status)</p> <p>Prolonged physical illness</p> <p>Coping skills (for older children) - passive, emotion focused, avoidant and ruminating, rather than active problem-solving, relaxation and positive self-talk</p> <p>Cognitive style (for older children) - pessimism, threat-bias thinking, attributions characterised by negativity, stability, globality, internality, uncontrollability</p>	<p>Parenting styles:</p> <ul style="list-style-type: none"> - low warmth (praise, encouragement, accessibility, sensitivity to requests for assistance and nurturing) and rejection (unresponsiveness, irritation, criticism, hostility) - low inductive reasoning (questioning and explanation to support independent thinking) - power-assertion (dominating control, punishment) - over-involved and over-protective (enmeshed, suppression of child autonomy) <p>Parent-child attachment relationship difficulties</p> <p>Marital discord</p> <p>Parental psychopathology (anxiety, depression)</p> <p>Exposure to negative life events (chronic stress, bereavements, family separation, trauma, major illness, low social support)</p> <p>Modelling of fearful and non-coping responses (child observational learning)</p> <p>Operant conditioning of fear behaviours (reinforcing child withdrawal, punishing child exploration)</p> <p>Classical conditioning to fear stimuli (desensitising child with gradual exposure)</p> <p>Socioeconomic status (financial stress, poor housing, etc)</p> <p>Parental education (restricted)</p>

Source: Bayer & Sanson (2003, p.10)

Table 6. Social, environmental and economic determinants of mental health

<i>Risk factors</i>	<i>Protective factors</i>
Access to drugs and alcohol	Empowerment
Displacement	Ethnic minorities integration
Isolation and alienation	Positive interpersonal interactions
Lack of education, transport, housing	Social participation
Neighbourhood disorganisation	Social responsibility and tolerance
Peer rejection	Social services
Poor social circumstances	Social support and community networks
Poor nutrition	
Poverty	
Racial injustice and discrimination	
Social disadvantage	
Urbanisation	
Violence and delinquency	
War	
Work stress	
Unemployment	

Source: WHO (2004, p.21)

Table 7. Risk and protective factors for mental disorders

<i>Risk factors</i>	<i>Protective factors</i>
Academic failure and scholastic demoralization	Ability to cope with stress
Attention deficits	Ability to face adversity
Caring for chronically ill or dementia patients	Adaptability
Child abuse and neglect	Autonomy
Chronic insomnia	Early cognitive stimulation
Chronic pain	Exercise
Communication deviance	Feelings of security
Early pregnancies	Feelings of mastery and control
Elder abuse	Good parenting
Emotional immaturity and dyscontrol	Literacy
Excessive substance use	Positive attachment and early bonding
Exposure to aggression, violence and trauma	Positive parent-child interaction
Family conflict or family disorganisation	Problem-solving skills
Loneliness	Pro-social behaviour
Low birth weight	Self-esteem
Low social class	Skills for life
Medical illness	Social and conflict management skills
Neurochemical imbalance	Socioemotional growth
Parental mental illness	Stress management
Parental substance abuse	Social support of family and friends
Perinatal complications	
Personal loss – bereavement	
Poor work skills and habits	
Reading disabilities	
Sensory disabilities or organic handicaps	
Social incompetence	
Stressful life events	
Substance use during pregnancy	

Source: WHO (2004, p.23)

4. OVERVIEW OF THE EVIDENCE

4.1 Mental health promotion

The WHO has recently produced several major comprehensive reports that document the evidence base for mental health promotion:

Mental health promotion works: A review (Jané-Llopis, Barry, Hosman & Patel, 2005);

Mental health promotion and mental disorder prevention across European Member States: A collection of country stories (Jané-Llopis & Anderson, 2006); and

Promoting mental health: Concepts, emerging evidence, practice (Herrman, Saxena & Moodie, 2005).

These reports describe the growing and convincing evidence base in this field, and show that the evidence is strongest for the following types of mental health promotion interventions (Jané-Llopis et al., 2005):

Building healthy public policy

- improving nutrition in socio-economically disadvantaged children
- improving housing conditions for those in poor housing
- improving literacy in countries with low literacy through educational programs targeting children
- increasing taxation on addictive substances, such as cigarettes
- regulatory workplace policies to improve working conditions that impact on mental health

Creating supportive environments

- creating supportive home environments for early development through: home visiting for families at risk; home visiting support for mothers with depression; communities supporting early parenthood
- group-based parenting interventions
- pre-school interventions
- schools as a supportive environment to learn and grow
- supportive environments in the workplace, such as caregiver support programs

Strengthening community action

- strengthening community networks
- community action against substance dependence
- schools as a gateway for the community
- media campaigns to combat stigma and improve mental health literacy

Developing personal skills

- enhancing resilience and promoting social competence through cognitive restructuring techniques
- targeting the prevention of depression
- addressing the negative impact of unemployment

Reorienting health services

- including brief interventions in primary health care, particularly around harmful substance use
- interventions for new mothers
- early intervention for people with mental disorders.

A strong focus of mental health promotion activities in many countries has been on reducing the stigma of mental illness. Recently, a report has been produced on a Global Program of the World Psychiatric Association, which describes stigma reduction programs in 19 diverse countries (Sartorius & Schulze, 2005). A variety of approaches to evaluation were used in these stigma campaigns, and many demonstrated an improvement in mental health literacy and reduction in stigma through the use of survey questionnaires administered before and after the programs. High school students were targeted by a large number of the programs, as these types of programs are easily implemented through schools. Changing the attitudes of young people, at a time when they are becoming increasingly vulnerable to mental health problems, is argued to be particularly appropriate and effective. Another common approach was targeting the media to change public depictions of people with mental illness; however, it was more difficult to demonstrate the effectiveness of these types of approaches as they are aimed at the entire community and outcomes are difficult to assess.

The positive effect of a multi-modal mass media approach to improve health literacy and mental health literacy has been demonstrated through evaluations of the Soul City 'edutainment' project. Soul City is a South African multimedia edutainment health communication intervention aimed at increasing health literacy, particularly for disadvantaged African and Coloured South Africans. A large-scale, multi-mode and well designed evaluation revealed that this mass media approach reached more than 80% of its target audience and was effective at increasing health literacy, particularly with reference to domestic violence and HIV/AIDS, as well as resulting in increased access to services (Scheepers, Christofides, Goldstein et al., 2004). The intervention shifted community norms and stimulated community dialogue. A dose-response effect was evident with greater exposure associated with more positive change. It is argued that Soul City's effectiveness is partly due to the fact that it deals with multiple issues comprehensively and that multiple intervention components impact synergistically on individuals as well as communities and broader social processes.

Consumer participation is another essential component of mental health promotion. Despite considerable progress in this direction since the advent of the *National Mental Health Strategy*, reviews conclude that consumer involvement in the mental health field, both in mental health promotion and in the mental health field in general, is yet to realise the national policy vision (Commonwealth Department of Health and Ageing, 2003; Mental Health Council of Australia, 2005). Barriers to full consumer participation include: structural issues and insufficient education and training to support workers to put policy into practice; lack of clarity about who is a consumer; the many difficulties consumers face in progressing mental health consumer agendas; and disagreement on how consumers understand what constitutes 'mental health' (Stacey & Herron, 2002).

4.2 Prevention of mental illness

The WHO has recently released a major report documenting the evidence base for prevention for better mental health:

Prevention of mental disorders: Effective interventions and policy options (Hosman, Jané-Llopis & Saxena, 2005)

This document presents evidence that the following prevention interventions are effective for:

Conduct disorders, aggression and violence (p.38):

- Universal interventions: behaviour management (*Good Behaviour Game*), child social skills interventions (*I Can Problem Solve, Promoting Alternative Thinking Strategies*), and multimodal school programs (*Bullying Prevention Programme, Child Development Project, Seattle Social Development Project, Linking the Interests of Families and Teachers Programme*).

- Selective interventions: prenatal/early childhood programs (*Nurse Family Partnership, Incredible Years Programme*).
- Indicated interventions: school multimodal programs for children at risk (*First Step, Montreal Prevention Project, Fast Track*).

Depression and depressive symptomatology (pp.39-41):

- Universal interventions: school-based programs targeting the cognitive, problem-solving and social skills of children and adolescents; exercise for older adults; interventions to reduce child abuse and neglect and bullying. However, note that Spence, Sheffield and Donovan (2005) report that at longer-term follow-up (2, 3 and 4 years), an initially successful school-based program was not shown to maintain effectiveness.
- Selective interventions: parenting interventions for parents of children with conduct problems; interventions to improve coping with major life events such as parental death or divorce, unemployment, and chronic illness for older adults.
- Indicated interventions: programs that promote positive thinking, challenge negative thinking and improve problem-solving skills for adolescents with depressive symptoms.

Anxiety disorders (pp.42-43):

- Universal interventions: prevention of exposure to and reduction of duration of traumatic events (although no evidence is available for the preventive impact of such measures)
- Selective interventions: cognitive-behavioural programs such as FRIENDS, which builds emotional resilience, problem-solving abilities and self-confidence in children. It is also effective as a universal and indicated intervention.
- Indicated interventions: cognitive-behavioural therapy to prevent post traumatic stress disorder (PTSD). Notably, however, critical incident stress debriefing (CISD), which encourages recollection and reworking of the trauma soon after the event, has not been demonstrated to be effective and can actually increase the risk of PTSD.

Eating disorders (pp.43-45):

- A recent Cochrane Review revealed empirical support for the efficacy of interventions involving media literacy and advocacy resulting in less internalisation and acceptance of societal ideals of female appearance, but not for interventions directly addressing adolescent abnormal eating attitudes and behaviours (Pratt & Woolfenden, 2003). While the WHO (2004) states that studies do not allow firm conclusions on the effectiveness of eating disorder prevention programs, Stice and Shaw (2004) argue that progress has been made on the prevention, but not the treatment, of eating disorders. This meta-analysis of eating disorder prevention programs found that intervention effects ranged from an absence of any effects to reductions in current and future eating pathology. Certain effects persisted as long as 2 years and were superior to minimal-intervention control conditions. Larger effects occurred for selected (vs. universal), interactive (vs. didactic), and multi-session (vs. single session) programs; for programs offered solely to females and to participants over age 15; for programs without psychoeducational content; and for trials that used validated measures (Stice & Shaw, 2004).

Substance related disorders (pp.45-47):

- Universal interventions: effective regulatory interventions that can be implemented at international, national, regional and local jurisdictional level, comprise taxation, restrictions on availability and total bans on all forms of direct and indirect advertising. Mass media interventions using a universal strategy have been shown to have limited impact on alcohol use and related problems. However, comprehensive community interventions that use community mobilisation to raise awareness of problem drinking have been shown to be effective (e.g. *Saving Lives Project*).

- Selective interventions: although school-based interventions have proven effective in increasing knowledge and improving attitudes toward addictive substances, there is still little evidence in relation to the actual prevention of substance use disorders.
- Indicated interventions: brief interventions, such as brief advice from a general practitioner (GP), are highly effective as well as cost-effective for smoking and harmful alcohol use.

Psychotic disorders (pp.47-49):

- Indicated prevention and early intervention provide the best approaches for psychotic disorders. Universal and selective prevention is not currently possible, although increasing mental health literacy and early help-seeking are important interventions to minimise the impact of these disorders. At the PACE clinic in Melbourne an RCT has shown clear evidence that it is possible to delay the onset of first episode psychosis with a combination of low dose atypical antipsychotic medication and cognitive therapy (McGorry, Yung, Phillips et al., 2002).

Suicide (pp.49-51):

- Universal interventions: reducing access to means is one of the most effective suicide prevention approaches. The WHO report (2004) concludes that suicide education in school settings has not shown any impact on suicide behaviour; however, a recent large-scale RCT has shown the Signs of Suicide (SOS) prevention program to be the first school-based suicide prevention program to be effective, with significantly lower rates of suicide attempts and greater knowledge and more adaptive attitudes about depression and suicide among the intervention group (Asetline & DeMartino, 2004).
- Selective interventions: for older people, a quasi-experimental study demonstrated that a telephone hotline combined with home visiting resulted in a substantial drop in suicide compared with a comparable population group (De Leo, Dello Buono & Dwyer, 2002), although otherwise the effectiveness of hotlines and crisis centres has not been demonstrated.
- Indicated prevention: to date the most effective strategies to prevent suicide include the prescription of antidepressant drugs to people suffering from depression, as depression is one of the strongest risk factors for suicide.
- Importantly, a major review of suicide interventions has recently been undertaken in New Zealand, which considers the risk and protective factors and points of effective intervention and confirms the conclusions reported by WHO (see Beautrais, Collings, Ehrhardt & Henare, 2005). Specifically for youth suicide prevention, an earlier review concluded that, 'in general, control conditions are just as effective at reducing suicidal behavior as experimental conditions' (Miller & Glinski, 2000, p.1131).

The prevention of depression has been a particularly strong focus of interventions, partly because of the high prevalence of depression and its major contribution to the burden of disease, and partly because it is associated with so many other mental health problems and mental disorders (such as suicide, anxiety, drug and alcohol use). A meta-analysis of 69 prevention studies reported a weighted mean effect size of 0.22 for different age groups and different levels of risk, and in reducing risk factors and depressive symptoms (Jané-Llopis, Hosman, Jenkins & Anderson, 2003). More details are presented in Table 8. Studies were selected if they were: defined as universal, selective and indicated prevention (excluding any pharmacological interventions); included the prevention of depression as a primary or secondary goal or outcome; focussed on the improvement of protective factors or the reduction of risk factors related to depression. Programs with larger effect sizes were multi-component, included competence techniques, had more than eight sessions, had sessions 60-90 minutes

long, had a high quality of research design, and were delivered by a health care provider in targeted programs. Older people benefited from social support, whereas behavioural methods were detrimental. It was concluded that an 11% improvement in depressive symptoms can be achieved through prevention programs.

Many prevention interventions target risk factors that are related more generally to mental health problems, rather than being specific to particular disorders. Weisz et al. (2005) report that beneficial effects have been found in meta-analyses of child abuse prevention programs, programs designed to prevent negative consequences of divorce on parents and children, and some drug abuse prevention programs. Impressive findings have also come from the long-term effects of prevention programs that combine preschool intervention with family support on delinquency and antisocial behaviour 8 to 12 years after the intervention. For universal prevention studies, in general, a meta-analysis of 177 studies reported significant mean ESs ranging from 0.24 to 0.93 (weak to very strong), depending on program type and target population (Durlak & Wells, 1997).

Because prevention interventions generally target factors involved in the hypothesised etiologic chain before the onset of any disorder, programs may be expected to reduce the incidence of multiple mental health problems. This is particularly important in mental health because the co-occurrence of mental disorders is high in community samples and even higher in clinical samples (Angold, Costello & Erkanli, 1999). Risk factors such as parental divorce (Amato, 2001) and single parenthood combined with low income (Olds, Henderson, Cole et al., 1998) are associated with multiple problems and disorders. Some prevention trials are beginning to show effects for multiple problem outcomes (Olds et al., 1998; Wolchik, Sandler, Millsap et al., 2002).

Table 8. Meta-analysis of depression prevention

<i>Variable</i>	<i>Number of programs</i>	<i>Weighted mean effect size</i>
Age		
Children (0-14 years)	16	0.21
Adolescents (15-18 years)	9	0.19
Adults (19-65 years)	32	0.21
Elderly (>65 years)	12	0.24
Gender		
Male only	3	0.38
Female only	13	0.08
Both	47	0.26
Not reported	6	0.24
Program		
Universal	10	0.30
Selective	44	0.19
Indicated	15	0.23

Source: Jané-Llopis, et al. (2003, p.392)

For example, a program for divorced families led to a reduction in multiple problems six years later, including lower prevalence of diagnosed mental disorder, reduced alcohol and drug use, reduced high-risk sexual behaviour, and improved grades (Dawson-McClure, Sandler, Wolchik, & Millsap, 2004). Similarly, prevention programs that promote strengths of children, parents, and schools has been shown to lead to multiple positive outcomes over time, including reduced mental health problems and substance use (Hawkins, Kosterman, Catalano et al., 2005).

A meta-analysis of the effectiveness of intervention programs for children of divorce considered a total of 23 studies (total study population $N = 1615$) (Stathakos & Roehrl, 2003). The average ES of all programs was 0.43. The best results were attained by interventions applied during the first two years after the separation/divorce at the age of 9-12 years ($d = 0.50$) with no more than 10 sessions ($d = 0.66$), each lasting about 60-75 minutes ($d = 0.61$). Group size was not so relevant, but there was a tendency for groups of medium size to be more efficient than small groups.

A website has been jointly sponsored by the American Psychological Association (APA) and the Society for Prevention Research, which contains information on over 100 reviews of prevention research addressing drug use, pregnancy, child maltreatment, and health promotion (www.oslc.org/spr/apa/summaries.html).

Knowing for whom and under what conditions prevention interventions work is still developing, and research into the moderators of prevention interventions is limited (Weisz et al., 2005). For example, even the effect of the fundamental demographic of age is not well understood, as age boundaries are not often considered in evaluation of prevention programs.

The effects of race, ethnicity and culture are also likely to be important moderating factors. Very few meta-analyses have examined these factors as potential moderators. Furthermore, even when reviews have concentrated on multiple ethnic groups as their target population, such as the review of the model prevention programs identified on the Substance Abuse and Mental Health Services Administration's website for the National Registry of Effective Programs and Practices (see www.mentalhealth.samhsa.gov) where 91% of the programs reviews identify multiple ethnic groups, this is not direct evidence of effectiveness for all the culturally and linguistically diverse groups for all the programs (Weisz et al., 2005).

Two recent meta-analyses, conducted as doctoral studies, have focused on Asian American and African American participants, reporting mean effect sizes of 0.35 and 0.37, respectively, which are comparable to effect sizes obtained in other meta-analyses not focused on minority populations (Kawashima, 2004; Yuen, 2004; both cited in Weisz et al., 2005). There is some other evidence that adapting programs for specific ethnic groups leads to small increments in program effectiveness (Botvin, Schinke, Epstein et al., 1995; Harachi, Catalano & Hawkins, 1997) and even larger increments in family utilisation of programs (Kumpfer, 2002), which of itself is an important finding because of the generally greater reluctance of people from culturally and linguistically diverse backgrounds to access services and interventions.

4.3 Early intervention

Durlak and Wells (1998) evaluated the outcomes of 130 indicated prevention interventions for children and adolescents. These interventions sought to identify early signs of mental health problems and intervene before full-blown disorders developed. The programs were shown to significantly reduce mental health problems and increase competencies. Behavioural and cognitive-behavioural therapeutic (CBT) approaches for children with sub-clinical disorders were shown to be as effective as psychotherapy for children with established problems, and more effective than attempts to prevent adolescent smoking, alcohol use and delinquency (mean ESs around 0.50). The average participant in a CBT intervention achieved approximately 70% greater change than those in a control group. The highest ES was demonstrated for programs

targeting externalising disorders (0.72), which have been shown to be the least amenable to change via traditional psychotherapeutic techniques once they reach clinical levels.

One of the best examples of early intervention is the Early Psychosis Prevention and Intervention Centre program (EPPIC). This program has demonstrated reduced morbidity, more rapid recovery, better prognosis, preservation of psychosocial skills, preservation of family and social support, and decreased need for hospitalisation among participants with early signs of psychosis (Edwards & McGorry, 2002).

Limited evidence shows that early geriatric screening and case management can result in a range of mental health benefits. For instance an early case management program for at-risk older people in the community, which included in-home assessment, regular contact and a range of social services led to decreased institutionalisation and depression and increased life satisfaction (Shapiro & Taylor, 2002).

5. PPEI AND GENERAL PRACTICE

General practice provides an ideal opportunistic setting for PPEI. Over 85% of Australians visit a GP at least once a year (Britt, Miller, Knox et al., 2005) and general practice is a critical access point for a wide range of health and community services. In 2004–05, there were an estimated 10 million mental health-related general practice encounters, and for people who do seek help for a mental disorder, the overwhelming majority (77%) consult their GP (Britt et al., 2005). Recent data suggest that mental health problems account for approximately 7% of all problems managed by GPs and are a presenting feature in about 10% of all attendances (AIHW, 2005). Depression is the most frequently managed mental health problem, accounting for approximately 34% of all mental health problems managed and 2% of all managed problems. Anxiety (15%) and sleep disturbance (15%) are the next most frequently managed mental health problems. Importantly, people at risk of suicide frequently first come into contact with primary health care services, particularly general practice (LIFE Framework: Commonwealth of Australia, 2000).

GPs already engage in a great deal of health promotion activities, such as cardiovascular health, asthma prevention, Sunsafe, diabetes screening and prevention, alcohol and other drug awareness, smoking cessation, injury prevention, STD prevention, developmental screening, stroke prevention, cancer screening and immunisation.

5.1 International initiatives

Internationally, it has been argued that there have been very few approaches implemented to integrate mental health promotion strategies into primary care and general practice (Jané-Llopis et al., 2005). The few projects that have been noted include a collaborative European project that has developed a primary care-based system for the promotion of mother–child interaction and the prevention of child mental health problems, combining approaches developed in Southern Europe and the United Kingdom (see http://www.uta.fi/laitokset/laaket/bio/research/childpsychiatry_europeanearlypromotion.html).

The service is focused on two important areas of prevention: 1) early recognition of factors putting the healthy development of an infant at risk; and 2) targeting early interventions to those families in which infants are at risk. The system is theory based; involves all families through a public health model that is proactive and non-stigmatising; is set within existing primary care systems, but integrated with other systems, such as child mental health services; provides a contact person in the community to enable identification of families in need; begins before birth, is continuous and long term; involves an effective alliance with parents as one of the essential ingredients; targets help, which is determined by need and individually tailored; is home based and concerned with child, parental, and family need; emphasises the importance of parent–infant interaction; takes account of multiple factors within an ecological framework; and uses trained and well supported staff (Puura, Davis, Papadopoulou et al., 2002, pp.618, 621). Preliminary findings are encouraging and the new service has been successfully implemented in five European countries even though very different systems and personnel are involved. Early results indicate that the training is acceptable and meaningful in all countries, and has been found to be useful in increasing both the understanding and skills of primary health care practitioners. For example, there is some evidence of improved sensitivity to family psychosocial need and increased accuracy in its identification, at least in the UK, although these effects were not evident in Finland.

Another European project has developed and pilot-tested a training manual for primary health care professionals on mental health promotion for adults using problem solving skills training. With partners across 28 European countries, Implementing Mental Health Promotion Action

(IMHPA) is developing a set of tools for health professionals, practitioners and policy makers, in order to support implementation and dissemination at the national or regional levels (see www.imhpa.net). Since April 2003, IMHPA has engaged in developing three strands of products to be disseminated, implemented and tested across European countries, including: a standardised internet database of evidence-based mental health promotion and mental disorder prevention programs and policies; a training manual for primary health care professionals to include mental health promotion in daily clinical practice; and a *European Policy Action Plan* for mental health promotion and mental disorder prevention.

5.2 Australian initiatives

Australia has been particularly progressive in the area of PPEI, and general practice has been involved with community-based general health promotion programs for some time. For example, there were 55 community-based health promotion projects funded in 1993-94. An analysis of these projects concluded that: almost all projects undertook some form of needs assessment; projects tended not to be targeted; participation rates and reporting varied greatly; project evaluations were designed to measure process and impact at the individual level rather than on a system-wide level; and that most project goals and objectives lacked clarity and measurability (Naccarella, 1998). Nevertheless, despite poor methodology, all projects reported impacts on GPs, consumers and other community agencies and it was argued that they increased knowledge of health issues and improved networking.

Pioneering work in universal prevention was carried out by an Australian GP who provided child-rearing advice to mothers of pre-school children over the first five years of the child's life to change childrearing behaviours and attitudes. Beneficial effects were reported in childhood and on follow-up into early adulthood in terms of psychosocial wellbeing, educational achievements and social behaviours (Cullen & Cullen, 1996).

Survey of PPEI activities in general practice (Auseinet and ADGP)

A survey of Divisions of General Practice in Australia conducted in 2003 by Auseinet and ADGP revealed that over 80% were involved in some type of mental health promotion activity (O'Hanlon, Wells & Parham, 2004). Most Divisions focussed their work on education for GPs, followed by community liaison and school liaison. Divisions did not generally focus on a particular age group and did not have a specific population focus, although a substantial proportion of activities addressed the needs of rural and remote communities, Aboriginal and Torres Strait Islander peoples, or people from culturally and linguistically diverse backgrounds. Other settings identified by Divisions for mental health promotion were counselling services, media, youth workshops, practice staff education, and consumer group meetings.

Almost 90% of Divisions were involved in some type of prevention activity (O'Hanlon et al., 2004). Like mental health promotion, most Divisions focussed their work on education for GPs, followed by practice support, and school and community liaison. Divisions did not generally focus on a particular age group, but if they did the focus was either on young people (12-17 years) or young adults (18-25 years). Most did not have a specific population focus, although a substantial proportion addressed the needs of rural and remote communities. Fewer activities were for Aboriginal and Torres Strait Islander peoples or people from culturally and linguistically diverse backgrounds.

For early intervention, just over 90% of Divisions were involved (O'Hanlon et al., 2004). These projects included Divisional education for GPs on detection of signs and early treatment and support in providing brief interventions. There was generally no focus on specific age groups. Again, while most did not have a specific population focus, a substantial proportion addressed the needs of rural and remote communities. Fewer activities were for Aboriginal and Torres Strait Islander peoples or people from culturally and linguistically diverse backgrounds.

A number of barriers were identified to GPs and Divisions incorporating PPEI (O'Hanlon et al., 2004, p.28). These were: GP factors, such as lack of time, negative attitudes, and disinterest; funding in terms of lack of funding, inadequacy, and cost of programs; time demands on Division staff through workloads, competing demands and networking; lack of resources in terms of staffing and materials; rurality in terms of distance, isolation, lack of resources, access to training, access to services, workloads, and stigma in community; the impact of other services through communication, relationships, and competition for funds; and Divisional capacity in terms of priorities, obligations, planning cycles, and bureaucracy. In parallel, a wide range of facilitating factors were also identified that could ameliorate these barriers.

Primary Mental Health Care Australian Resource Centre

More recently, the Primary Mental Health Care Australian Resource Centre (PARC) website has collated information on mental health programs and activities of the Australian Divisions of General Practice in 2005. Included in the 'Suite of Knowledge Databases' (see <http://www.parc.net.au/searchprelim.htm>) is the Mental Health Activities of Divisions Database, which contains brief information about the mental health programs and activities of the Australian Divisions of General Practice. It is based on interviews with mental health program officers carried out by PARC in the first half of 2005 for the Knowledge Harvesting Program, and annual updates are planned. A search of this database using the term 'mental health promotion' revealed that two Divisions in Queensland are implementing and evaluating the Every Family Initiative, which is a population health approach to decrease the prevalence of common behavioural and emotional problems in young children (4-6 years) and their families. A search using the term 'prevention' generated 26 diverse projects. A search using the term 'early intervention' did not yield any projects under this heading.

Help-seeking and early intervention

General practice is a setting where people experiencing the early signs and symptoms of mental disorder are likely to attend. For example, when young people seek professional help for their mental health, family doctors and school-based counsellors are their professionals of choice (Sawyer, Arney, Baghurst et al., 2000). GPs were one of the most influential professional gatekeeper groups identified in a major review of help-seeking behaviour for young people (Rickwood, Deane, Wilson & Ciarrochi, 2005). It is estimated that about 38% of people who complete suicide have had contact with their GPs within one month of death (Pirkis & Burgess, 1998).

For suicide prevention, there is clear evidence from meta-analyses, systematic reviews, and RCTs that one of the few effective approaches is educating physicians to recognise and effectively treat depression, through use of antidepressants and referral to CBT programs (Beautrais et al., 2005; Mann, Apter, Bertolote et al., 2005).

It is critical, therefore, that GPs can recognise the early signs and symptoms of mental health problems, and general practice is an ideal setting for screening. Yet there is wide variation in GPs' rates of recognition of either risk factors or early signs of mental health problems (Garralda, 2001). For example, accuracy rates for detecting depression vary between 25–75% (Brown & Schulberg, 1998). Furthermore, a survey of GPs revealed that most of the respondents reported their undergraduate training in adolescent mental health issues to be inadequate and 64% said that they found it difficult to obtain advice on complex mental health problems (Veit, Sancj, Coffey et al., 1996). However, it has also been argued that even without formal training in screening, most GPs provide reasonably good screening for mental disorders (Prince & Phelan, 1994).

Table 9. Depression in young people - NHMRC Clinical Practice Guidelines

Recommend

- asking young people how life is going in general;
- considering emotional issues in young people who present frequently to general practice with what appear to be minor complaints;
- screen for mental health issues, substance abuse, behavioural disorder and medical illnesses; and
- certain disorders and conditions which are comorbid with depression should raise the index of suspicion: anxiety, eating, or attention-deficit/hyperactivity disorders; viral illnesses such as infectious mononucleosis and hepatitis; chronic illnesses such as diabetes mellitus, schizophrenia and cancers; abuse — sexual, physical and emotional

Source: NHMRC (1997, p.5)

Primary care physicians need to be aware that when people seek help for a mental health problem, they often do so in an indirect manner, for example by presenting with a physiological symptom such as trouble sleeping, tiredness or pain. Consequently, it is necessary to probe beyond the presenting issue to uncover the mental health problems. Many people are not able to properly articulate their mental state, while others are uncomfortable about coming forward with their mental health issues. Young people, older people, and people from culturally and linguistically diverse backgrounds are especially likely to present indirectly with their mental health problems.

To improve GPs' skills in providing health care to young people, an educational intervention in adolescent health has been designed for GPs in accordance with evidence-based practice in continuing medical education. A small RCT with baseline testing and follow-up at 7 and 13 months in metropolitan Melbourne (N=108 GPs) showed improvements in GPs' knowledge, skill, self perceived competency, and self-reported change in practice (Sanci, Coffey, Veit et al., 2000).

Earlier work by the NHMRC focussed on detecting depressive symptoms in young people in general practice, and clinical practice guidelines were developed (see Table 9). These guidelines may apply equally well to other groups who are not likely to be forthcoming about their mental health problems.

Your Mental Health and Alcohol: Managing the Mix

Alcohol and mental health problems are often linked, and general practice is a key setting for the identification and treatment of co-occurring alcohol misuse and mental health problems. The project entitled *Your Mental Health and Alcohol: Managing the Mix* is a government-community-general practice collaboration that aims to build capacity and skills for better prevention and management of comorbidity in general practice. Project objectives include more systematic and integrated shared care programs, skills development for GPs in the area of addictions and mental health, clinical support for GPs and practice staff to respond to complex comorbid presentations, and appropriate consumer education resources for use in the GP consultation and/or surgery. There are currently 19 projects, representing 33 Divisions of General Practice, funded to implement *Managing the Mix* locally. For information on individual projects, see <http://www.adgp.com.au/site/index.cfm>

MindMatters *Plus* GP

MindMatters *Plus* GP focuses specifically on the estimated 3-12% of young people in schools with high support needs related to their mental health (see <http://www.adgp.com.au>). The overall aim of this initiative is to provide networks of care for students with high support needs in the area of mental health and wellbeing through developing and promoting sustainable partnerships between schools, Divisions of General Practice, and general practice settings. The initiative is a response to evidence that when young people do seek professional help, family doctors and school-based counsellors are their professionals of choice (Sawyer et al., 2000).

To date, there have been two phases of the MindMatters *Plus* GP initiative. The first phase commenced in June 2003, when 17 MindMatters *Plus* demonstration schools were linked with their local Division of General Practice to help support students with high support needs for mental health and wellbeing. These demonstration schools comprise a diverse group of school communities, ranging in size from 50 to 1,800 students, located in capital cities, regional towns and rural areas, and serving diverse population groups. The projects that developed under Phase 1 can be grouped into three broad areas of activity:

- developing clinical referral pathways (a focus on identification of students and protocol development for students to be referred by the school to a GP for assessment with feedback to the school on outcomes and proposed plan);
- expanding networks of care (a focus on building a multidisciplinary network from available resources, including general practice, for the school to access); and
- enhancing student confidence, skill and knowledge in seeking help and managing their health (a focus on student empowerment to build a foundation for successful use of referral pathways).

Phase 2 commenced late in 2004, and involves 16 of the original demonstration schools along with 7 new participating Divisions and their secondary school partners. There are now 23 demonstration schools involved in the initiative. The additional Division/school partnerships have focussed on developing models to address the needs of young people in remote communities, as well as Indigenous secondary students and students from culturally and linguistically diverse backgrounds.

Resources to support the MindMatters initiative are increasingly being developed, as well as expanding to primary schools (see <http://cms.curriculum.edu.au/mindmatters/>).

Better Outcomes in Mental Health Care

The *Better Outcomes in Mental Health Care* program has a role in early intervention to provide the most effective treatment for first episodes of mental illness. The aim of the program is to support GPs in improving the quality of care provided through general practice to Australians with a mental health illness by providing mental health education and training for GPs and more support for them from allied health professionals (including psychologists) and psychiatrists.

The program has five major components:

- *Incentive payments for GPs*: to reward and encourage effective management of mental health problems by GPs through assessment, care planning and review;
- *Education and training for GPs*: to familiarise them with the initiative and to increase the number of GPs skilled in counselling;
- *Medicare Benefits Schedule Items for GP Focussed Psychological Strategies* (previously referred to as GP Counselling): to provide Medicare Benefits Schedule rebates for focussed psychological strategies and evidence based treatments provided by appropriately trained GPs;

- *Access to allied health services:* to enable GPs to access psychological and other allied health services to support their patients with mental health problems; and
- *Medicare Benefit Schedule Item for psychiatrist case conferencing:* to provide Medicare Benefits Schedule rebates where psychiatrists participate in case conferencing on the patient's behalf and to provide consultancy assistance to GPs in emergency situations.

(For more information see: www.racgp.org.au or www.adgp.com.au or www.health.gov.au)

The BEACH survey of general practice

The BEACH survey of general practice activity is a collaborative study between the AIHW and the University of Sydney. The survey collection began in April 1998, and for each year's data collection, a random sample of about 1,000 GPs report details of 100 consecutive general practice encounters of all types on structured encounter forms. Each form collects information about the consultation (e.g., date, type of consultation), the patient (e.g., date of birth, sex, and reasons for encounter), the patient's presenting problems (e.g., diagnoses, status of each problem), and the management for each problem (e.g., treatment provided, prescriptions, referrals). Data on patient risk factors and health status and on GP characteristics are also collected. A detailed summary of the BEACH survey and the data collected can be found in the *General Practice Activity in Australia* series on the AIHW website - <http://www.aihw.gov.au/>.

Children of Parents with a Mental Illness (COPMI)

COPMI is a national initiative addressing the needs of children of parents with a mental illness. COPMI has developed resources for a range of users, such as children and young people, parents and families, media, and workforces including mental health, education, child protection and justice, early childhood and GPs. The COPMI website suggests questions that GPs can ask children under 18 years, as well as the parents/partners with a mental illness, and provides practical resources and background information. See www.copmi.net.au.

Early Psychosis Prevention and Intervention Centre (EPPIC)

EPPIC (see www.eppic.org.au) is a model of care for the early detection and treatment of emergent psychosis for young people aged 15-24 years, with demonstrated effectiveness (McGorry et al., 1996). The EPPIC group has developed guidelines for general practice: *The Early Diagnosis and Management of Psychosis: A Booklet for General Practitioners* (Orygen Youth Health, 2002).

Triple P – Positive Parenting Program

The Triple P - Positive Parenting Program is an evidence-based family intervention program to enhance family-related protective factors and reduce risk factors associated with severe behavioural and emotional problems in children. A primary care version of the program and training programs for GPs have been developed (Sanders, Murphy-Brennan & McAuliffe, 2003). See www.triplep.net.

Keep Yourself Alive - Suicide Prevention Program for GPs

The Keep Yourself Alive suicide prevention program is an adult education resource to help GPs and community health professionals to deal more effectively with young people who have suicidal and depressive thoughts (Martin, Clark, Beckinsale et al., 1997). The resource has been evaluated for GPs (Beckinsale, Martin & Clark, 1999).

SPHERE

SPHERE was established to improve the ability of GPs to identify and manage common mental disorders, particularly depression and anxiety (Hickie, Scott, Ricci et al., 1998). It provides training, education and practice support and is a collaborative project between psychiatrists, psychologists and GPs. See www.spheregp.com.au.

6. DISSEMINATION AND IMPLEMENTATION

A significant challenge for PPEI approaches is in dissemination and implementation. In particular, there are challenges to ensuring that evidence forms the basis of public policies that impact on mental health (Nutbeam, 2003). While effective approaches are increasingly being established, widespread implementation is more problematic. In fact, effectiveness demonstrated by a pilot program does not guarantee sustainability and Australia has been called the 'nation of the pilots'. For example, a report of the effectiveness of health promotion seeding grants to reorient health services toward health promotion concluded that seeding grants, on their own without significant additional effort to enable sustainability, had limited impact (Cass, Sullivan & Ritchie, 2004).

Of special relevance for PPEI in general practice, it is well documented that physicians have difficulty applying new research findings in their clinical practice, even when they are packaged in a ready-to-use format such as clinical practice guidelines (Waddell, 2001). More active dissemination approaches are required, such as audit and feedback and use of opinion leaders, although little is known about what works best in what settings.

Furthermore, education alone is ineffective at changing practices and a range of strategies need to be used to facilitate dissemination. These include making technology user-friendly, educating and motivating staff, and improving organisational dynamics (Corrigan, McCracken & Blaser, 2005). It must be understood that change occurs over time and through three stages (Drake, Torrey & McHugo, 2003):

1. motivational or educational interventions to prepare for change;
2. enabling or skill building interventions to enact a new practice; and
3. reinforcing, structural or financing interventions to sustain change.

There can also be a mismatch between the evidence base and everyday practice, particularly for evidence that comes from clinical trial-type designs. Weisz et al. (2005) note that these mismatches may occur in: (a) characteristics of the individuals targeted; (b) characteristics of their families, (c) reasons why individuals receive the intervention, (d) settings in which the intervention takes place; (e) kinds of people who provide the intervention; (f) incentive systems for the interveners and the youths; and (f) conditions under which the intervention is delivered. Weisz et al. argue that moving from experimental efficacy trials to everyday intervention practice may not be able to be done directly. Consequently, a prevention service development model has been specifically developed to improve the fit between the evidence base and everyday practice (Sandler, Ostrom, Bitner et al., 2005).

Despite support through mental health policy and an increasingly convincing evidence base, widespread dissemination of PPEI approaches is not supported by an appropriate level of resourcing. Unlike the pharmaceutical industry, there is unlikely to be large profits made from psychosocial and community interventions and there is, therefore, no infrastructure to support roll-out. Often PPEI interventions require learning new skills through training and professional development. This necessitates both the development of training resources and support as well as incentives for staff and service providers to take up the training. Without such levels of resourcing, the implementation of PPEI for mental health — particularly in the important setting of general practice — will remain sporadic, piecemeal and unsustainable.

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