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ABSTRACT

This literature review was undertaken as part of the National Mental Health Strategy on the development and maintenance of a national early intervention network for mental health in young people. Its purpose is to facilitate the development of innovative early intervention services across Australia by developing and maintaining a national network of mental health service providers; consumers; carers; researchers and policymakers; as well as an information clearinghouse. The review aims to critically examine the concept of early intervention for a broad audience and to explore its application in the area of mental health of young people. It seeks to provide an international review about: (1) the rationale for early intervention in mental disorder in young people; (2) the underlying conceptual framework; (3) the concept of prevention; (4) the presentation of a models of prevention; (5) research analysis; (6) an overview of evidence on effectiveness of this approach; and (7) the implications arising from the review. (Contains 281 references.) (JDM)

Early intervention in the mental health of young people

A literature review

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Early intervention
in the mental health
of young people

A literature review

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A copy of this publication can be downloaded from the AusEinet website:
<http://auseinet.flinders.edu.au>

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The AusEinet project is managed jointly by Professor Graham Martin MD and Professor Robert Kosky MD. Ms Cathy Davis is the senior project officer for the networking stream. Ms Anne O'Hanlon is the senior project officer for the reorientation of services and the promotion of good practice streams of the project.

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Chapter 1

Introduction

The background

Australia's National Mental Health Strategy, which was endorsed by Australia's health ministers in 1992 and initiated that year, has been a great boon for Australia's mental health services (Singh & McGorry 1998:435). Not only did it provide a clear policy framework and Commonwealth funding for reform of care of people with a mental illness, it highlighted an emerging awareness of the need for prevention of mental health problems. This was demonstrated in its objectives which included:

- to develop and evaluate primary, secondary and tertiary preventive programs as an essential component of all care provided for people at risk of mental disorder; and
- to encourage further research into the causes of mental disorders and the development and evaluation of primary prevention interventions in response to emerging scientific knowledge (Australian Health Ministers 1992).

Cotton and Jackson (1996:viii) note the increased emphasis in federal policy documents on early intervention and prevention of mental illness (cf Commonwealth Department of Human Services and Health 1994; Commonwealth Department of Human Services and Health 1995; Commonwealth of Australia 1993), observing that the National Goals, Targets and Strategies document (Commonwealth Department of Human Services and Health 1994) focuses on suicide, depression, and schizophrenia and other psychoses as prevention priorities in the mental health field.

The changes made by the States under the National Mental Health Strategy and the First National Mental Health Plan have been documented in a series of reports¹ which have highlighted some of its significant achievements. These include the movement of care of people with mental illness into the mainstream of general

1. Commonwealth of Australia (1993, 1994, 1995, 1996) National Mental Health Reports.

healthcare, an increase in spending on community mental health services and the recognition of consumer rights.

In addition, during the life of the National Strategy, the Mental Health Branch, on advice from the Early Intervention Working Party of the National Strategy, established three major national projects in early intervention. These projects were *Early Intervention in Psychotic Illnesses* (Early Psychosis Prevention and Intervention Centre – EPPIC), *Early Intervention in Anxiety Disorders* (Griffith Early Intervention Project – GEIP), and *Early Intervention for the Mental Health of Young People* (AusEinet).

AusEinet

In June 1997, the Commonwealth of Australia dedicated funding of \$1.95 million drawn from the National Mental Health Strategy and from the National Youth Suicide Prevention Strategy to the establishment of *The Australian Early Intervention Network for Mental Health in Young People* (AusEinet). AusEinet was instituted to coordinate a national approach to early intervention for mental health in young people² and was jointly developed by Flinders University of South Australia and the University of Adelaide. The project had three streams:

- the development and maintenance of a national early intervention network for mental health in young people;
- the reorientation of service delivery towards early intervention; and
- the identification and promotion of good practice in early intervention.

Purpose of this book

This literature review was developed as part of the networking stream of the AusEinet project. This stream aimed to facilitate the development of innovative early intervention services across Australia by developing and maintaining a national network of mental health service providers, consumers, carers, researchers and policy makers, as well as an easily accessible clearinghouse of relevant information.

The establishment of the network began in July 1997 and by July 2000 included more than 3,300 individuals, agencies and organisations. It comprises a wide range of people, including child and adolescent mental health workers, primary health care

2. The AusEinet project conceptualised children and young people as ranging from birth to 24 years.

providers, workers from the fields of juvenile justice, education, family and youth services, as well as academics, carer and consumer groups. A variety of strategies was used to develop the network including workshops conducted in each State and Territory, meetings and conference presentations. In addition, the networking stream developed and disseminated a quarterly newsletter on early intervention (AusEinetter), a website on early intervention (<http://auseinet.flinders.edu.au>) and an email discussion group (einet@nisu17.nisu.flinders.edu.au) and operated a clearinghouse on early intervention. Two major stocktakes of prevention and early intervention projects were conducted as part of the networking project:

- *National stocktake of early intervention programs* (Davis, Martin, Kosky and O'Hanlon 1998)
- *National stocktake of prevention and early intervention programs* (Davis, Martin, Kosky and O'Hanlon 1999)

AusEineter has produced other publications including a book:

- *Model projects for early intervention in the mental health of young people: Reorientation of services* (O'Hanlon, Kosky, Martin, Dundas and Davis 2000)

and an edited series entitled *Clinical approaches to early intervention in child and adolescent mental health* which so far includes:

- *Attention deficit hyperactivity disorder in preschool aged children* (Hazell 2000)
- *Early intervention for anxiety disorders in children and adolescents* (Dadds, Seinen, Roth and Harnett 2000)
- *Early intervention in conduct problems in children* (Sanders, Gooley and Nicholson 2000)
- *The perinatal period: Early interventions for mental health* (Kowalenko, Barnett, Fowler and Matthey 2000)
- *The psychological adjustment of children with chronic conditions* (Swanston, Williams and Nunn 2000)

The main aim of this literature review is to critically examine the concept of 'early intervention' (and in so doing, deal with much of the definitional confusion which surrounds it), and to explore its application in the area of mental health of young people. The review has been written for the very broad audience of the existing AusEineter network.

Early intervention literature review

This literature review seeks to provide an overview of the international literature related to early intervention in mental disorders in children and young people. Specifically, the following areas are addressed:

- the rationale for early intervention in mental disorders in children and young people;
- underlying conceptual framework and key concepts;
- historical overview of preventive efforts in mental disorders;
- the concept of prevention in mental disorders;
- towards a definition of early intervention;
- models of prevention and early intervention;
- the state of early intervention in mental disorders in Australia;
- research on early intervention – methodological issues;
- overview of evidence for the effectiveness of early intervention;
- implications arising from the literature review.

In undertaking the literature review, the writers utilised a number of CD-ROM and Internet based databases including Medline, PsycLIT, Psychinfo, Sociofile, Austrom Family, and PAR. Key search words included 'early intervention', 'prevention', 'developmental psychopathology', 'risk factors', 'resilience', and 'competence'. Hand searching of key journals was also undertaken. In addition, the writers utilised their own knowledge and contacts to identify relevant literature and conducted a search on the Internet.

Chapter 2

Rationale for early intervention: Why the interest?

Each year, about 100,000 children and young people within Australia's population of young people aged 5-25 years develop crippling emotional disorders. About a million more young people are seriously affected by emotional and behavioural problems (Zubrick, Silburn, Garton et al 1995). These figures are consistent with international epidemiological studies of child and adolescent populations, which have suggested prevalence rates of general psychiatric dysfunction ranging between 3 percent and 30 percent (Verhulst and Koot 1992). The average prevalence rate for clinically significant disorders in the six most recent studies³ was 14.3 percent. Moreover, for adolescents and young adults, there is evidence⁴ of increasing psychological morbidity, most clearly illustrated by increases in the incidence of suicide and the risk of developing depression. Increasing rates of drug abuse, drug related offending and the increasing contribution of substance abuse to suicide are special sources of concern. Zubrick, Silburn, Vimpani and Williams (1999) have referred to the 'downward developmental trend', whereby mental health problems and disorders appear to be affecting people at a younger age than previously reported. If Western societies are now producing young people with poorer mental health, there are important implications for public health and for social and economic life in general (Prosser and McArdle 1996:722), implications which have also been highlighted in the popular press (Horin 1999; Bagnall 1999).

A proportion of young adult mental disorder, particularly personality disorder, but also emotional disorders such as major depression and certain anxiety disorders, may have antecedents in child and adolescent psychiatric morbidity (Zeitlan 1988;

-
3. This was the average prevalence figure for clinically significant disorders in six DSM-III or DSM-III-R studies (Bird 1996).
 4. The research findings to date are neither comprehensive nor conclusive. See Prosser and McArdle (1996) for a review of relevant research.

Rey 1992; Rutter and Smith 1995). Most mental disorders, such as depression, substance abuse, anxiety disorders (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare 1999) and psychosis (EPPIC 1997) have their peak period of onset during adolescence⁵. Conduct disorders generally have their onset earlier in childhood. Only the disorders of the elderly, including the dementias, have an onset later in life.

The disruptive and disabling effects of first episodes of disorder may be exacerbated by the more general life phase issues of mid to late adolescence and the early adulthood developmental period in which most mental disorders first occur. This is a critical developmental period in the lifespan, particularly in terms of social and emotional well being. In all developmental domains (social, emotional, physical and cognitive), major changes are occurring that determine outcomes in adulthood⁶.

Mental illness occurring at any time is a serious 'life event' that can threaten self and identity, valued goals and roles, and social status. The disturbances occurring in childhood and adolescence are often the harbinger of life long difficulties in mental health and social well being. In many cases, the symptoms first presenting in childhood or adolescence persist and progress, leading to a burden of suffering and the need for ongoing care. The future of the young person affected by such conditions is placed in jeopardy⁷, their families are stressed⁸, and there are ramifications at every level of society from this 'aggregate burden of suffering'⁹ (Kosky and Hardy, 1992).

Starting during adolescence, mental illness will have its main impact during the years of an individual's greatest potential for learning and productivity. Unemployment and frustration are often a consequence of interruptions to education and work experience. (Kosky and Hardy 1992:147).

-
5. The National Survey of Mental Health and Wellbeing of Adults (Australian Bureau of Statistics 1998) found that the highest prevalence of mental disorders (27%) was in young adults (18-24 years).
 6. For example, the process of separation from parents and the establishment of an independent individual identity occurs, critical educational and vocational decisions are made, and peer group affiliations and intimate relationships are formed.
 7. The onset of even a relatively mild mental disorder at this time can have profound effects through crucial psychosocial changes. For example, mental health problems can reduce educational and vocational attainments, resulting in major ongoing consequences in adulthood (Kessler et al 1995). Both the family and the individual can experience considerable trauma and multiple losses.
 8. See Noh and Turner (1987) for a discussion of the implications for the mental health of family members.
 9. The aggregate burden of suffering is a term used for the sum total of costs to the individual and the community brought on by mental illness. This varies with the disorder in question and is based on the prevalence, severity, stability and its impact on the individual, family and the community.

The cost of mental disorders and mental health problems to Australia is enormous. Direct costs¹⁰ of mental illnesses have been estimated at between \$3 billion and \$6 billion per year (Human Rights and Equal Opportunity Commission 1993:835). The total spending on mental health has been recorded at \$1.997 billion (Commonwealth of Australia, 1996). While this figure included states and territories, Commonwealth and private service spending, it did not include capital expenditure nor associated costs of housing, income security, employment and training and general community support programs (Commonwealth of Australia, 1996:12). In addition to these actual costs, there are immeasurable personal costs which result from the effects of the human tragedy caused by stigmatising and marginalizing mental illnesses and the stress to family members and caregivers. Direct costs are also incurred by family members in caring for mentally ill members. Costs to the community that are not included in the quoted estimate also result from suicide, and costs incurred by the judicial system in caring for mentally ill offenders (Beitchman, Inglis, and Schachter 1992a). The costs then of mental illness, both emotional and financial, are staggering.

Albee, Bond and Monsey (1992) observe that mental health problems are the key world health problem of the future, and this is now acknowledged by the World Health Organisation. Over the next 20 years, it is predicted that mental illness will have increased to almost 15 percent of the global burden of disease or years lived with disability (Murray and Lopez 1996). As has been demonstrated, the genesis of mental disorders in children and young people is a major public health problem. What can be done about this?

One obvious approach to reduce the impact of emotional disorders is to identify people in distress at an early age (or at an early stage in the developmental pathway of a specific disorder), establish an early and accurate diagnosis and provide prompt, effective treatment¹¹. If it were possible to do this¹², it would perhaps halve

-
10. These costs include treatments provided by the States and Commonwealth through Medicare expenditure and further costs through pharmaceutical charges, social welfare benefits and subsidised housing.
 11. Interest in early intervention derives from mounting evidence that service programs that provide information, resources and opportunities for skill and knowledge of development early in the developmental sequence and in an ongoing rather than a crisis triggered manner are both effective and cost effective (Cooney and Marsh 1995:524).
 12. As this literature review suggests, there is an expanding evidence base showing that promotion, prevention and early interventions can prevent the development of mental illness and reduce its associated human burden. Additionally, there are potential long term cost savings from taking a preventive approach, rather than relying solely on a treatment paradigm. Well informed promotion, prevention and early intervention activities potentially have far reaching positive consequences for the whole Australian community.

the burden of mental ill health and reverse the progress of symptoms and their impact on the life of the individual and the need for rehabilitative efforts. In broad terms, this idea underlies the current interest in early intervention in mental disorders. The challenge is how to do it.

A necessary first step is to explore the underlying conceptual framework which informs early intervention in mental disorders and to identify some of the key concepts in this literature.

Chapter 3

Underlying conceptual framework and key concepts

One of the most interesting developments in the study of childhood disorders in the last twenty years has been the move towards a convergence of *developmental psychology* with clinical child psychology and psychiatry. This has led to the development of the concept of developmental psychopathology (Cicchetti 1984; 1989; 1990a), that is, the study of the origins and course of individual patterns of behavioural maladaptation (Sroufe and Rutter 1984:18). While the term does not dictate a specific theoretical explanation for disorders, their causes or outcomes, it does suggest a conceptual framework for organising the study of psychopathology around milestones, transitions and sequences in areas such as physical, cognitive, social-emotional and educational development (Achenbach 1990). The developmental study of psychopathology includes normative-developmental studies of prevalence rates, detection of clinically significant discriminations, and identification of syndromal patterns (Achenbach 1991:6). Thus, it attempts to integrate findings from diverse fields of study and is interested not only in raw origins and the developmental course of disordered behaviour (Sroufe 1989) but also in individual adaptation and success.

The developmental psychopathological perspective is based on emerging research that suggests the principles of normal development can be applied to understanding the emergence of disorder (Sroufe and Rutter 1984; Achenbach 1990). But what is 'normal development'? In the following sections, the nature and timing of developmental influences is explored and differing models of development described (with particular emphasis on the ecological transactional model). Key concepts and literature helpful in gaining an understanding of the genesis of disordered behaviour in children and adolescents, are identified.

What is development?

Despite divergent opinions of the notion of development¹³, it can be broadly described as the progressive, coherent process of growth that results in higher levels

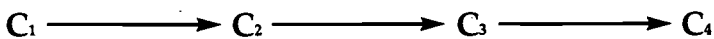
13. See Wicks-Nelson and Israel (1991), Chapter 2, for a discussion of the concept of development.

of functioning and encompasses a wide array of complex processes. Commonly accepted principles of development include¹⁴:

- a common general course of development of physical, cognitive and social-emotional system in all individuals;
- within each system early global behaviours become more finely differentiated and then integrated. Integration also occurs across all systems;
- development proceeds in a coherent pattern, where for each individual earlier development is systematically and logically linked to later development;
- development brings higher order meaning and flexibility.
- Each stage of development is seen as confronting individuals with new challenges to which they must adapt. At each period of reorganisation, successful adaptation or competence is signified by an adaptive integration within and among the emotional, cognitive, social, representational and biological domains, as the individual meets current biological and psychological developmental challenges.

How does development occur?

Theories of development have varied historically in the emphasis they place on contributions made to later behaviour by the characteristics of the person and characteristics of the environment. Broadly, theories can be distinguished in terms of whether they see nature or nurture as contributing to development and in terms of whether these contributions are active ones or passive ones¹⁵. As noted by Sameroff (1993), the earliest developmental theorists interpreted development as an unfolding of intrinsic characteristics that either are performed or interact epigenetically, as depicted in Figure 1.1¹⁶.



(C₁ - C₄ represents the state of the child at successive points in time)

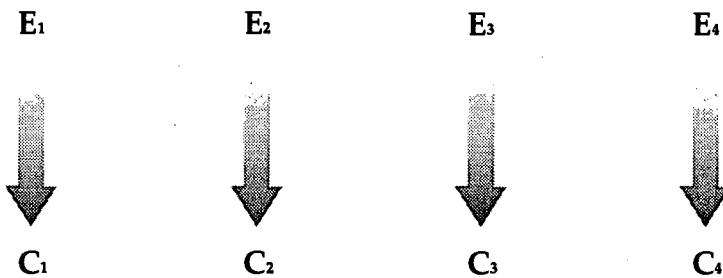
Figure 1.1: Early developmental model

14. Wicks-Nelson and Israel (1991), pages 16-20.

15. For example Riegel (1978) has placed models into four categories reflecting various combinations of passive and active persons and environments: (1) passive person - passive environment; (2) passive person - active environment; (3) active person - passive environment; (4) active person - active environment.

16. Figures 1.1 to 1.4 inclusive are adapted from Sameroff (1993).

This model was countered by an environmental model of discontinuity in which each stage of development is determined by the contemporary context¹⁷, as shown in Figure 1.2.



(E₁ – E₄ represents experiential influences at successive points in time)

Figure 1.2 : Environmental model of discontinuity

Figure 1.3 depicts an interactionist perspective in which ‘continuity is carried by the child but moderated by possible discontinuities in experience’ (Sameroff, 1993:5). Proponents of this view assert that “there is no logical possibility of considering development of an individual independently of the environment. Continuity cannot be explained as a characteristic of the child, because each new achievement is an amalgam of characteristics of the child and his or her experience” (Anastasi 1958 cited in Sameroff, 1993).

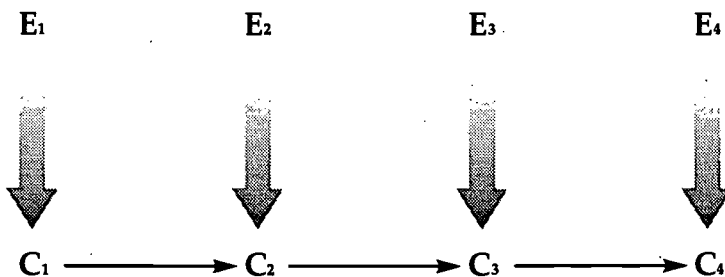


Figure 1.3: Interactionist perspective on development

17. This is analogous to Riegel’s (1978) passive person-active environment category.

More recent conceptualisations of the developmental model have incorporated effects of the child on the environment (see Figure 1.4). For example, 'the transactional model is seen as the development of the child as a product of a continuous dynamic interaction between the child and the experience provided by his or her family and social context. What is innovative in this model is the emphasis placed on the effect of the child on the environment, so that experiences provided by the environment are not independent of the child' (Sameroff 1993:6).

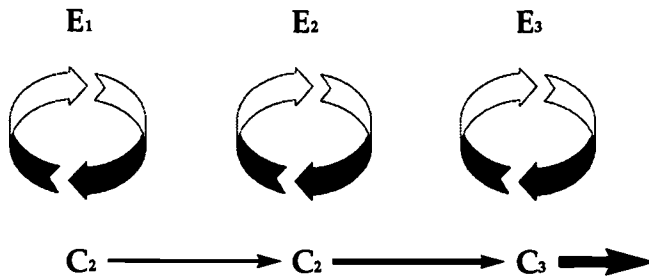


Figure 1.4: Ecological transactional model of development

Today, most developmentalists view growth as the result of ongoing interactions among biological, psychological and sociocultural variables. Ecological theory has been a key influence, focusing both on the individual and on the context. As an early proponent of ecological theory, Bronfenbrenner (1979; 1986) argued that children's development is strongly influenced by the family, school, peers, neighbourhood, and community contexts in which they live. Based on the interplay among genetic predisposition, physiological influences (for example, neurochemical imbalances or exposure to a disease), and often conflicting forces in the social environment, human behaviour is thought to be transactional and subject to the dynamics of social exchange. Hence, according to the transactional model:

- the meaning of behaviour must be interpreted according to the individual's developmental level;
- the meaning of behaviour must also be interpreted according to the psychological context;

18. The model considers the inter-relation between four factors: person (characteristics of the developing person); process (the mechanisms operating to influence psychological outcomes); context (persons and events at different levels of proximity to the developing person, from the microsystems of the home and local community to the macrosystems of the culture) and time (the historical period in which the events take place) (Bronfenbrenner 1979).

- development results from transactions – ongoing interactions among biological, psychological and sociocultural variables.

According to the ecological transactional model, the development of the child is a product of a continuous dynamic interaction between the child and the experience provided by his or her family and social context (Sameroff and Chandler 1975). Further, an individual's ecology is seen as being comprised of a number of co-occurring levels, some of which are proximal, and others more distal to the individual (Belsky 1993; Bronfenbrenner 1979; Cicchetti and Lynch 1993)¹⁸. The effects of these developmental influences may also be direct or indirect¹⁹. Given the emphasis placed on the effect of the child on the environment, experiences provided by the environment are not independent of the child. Hence, the child, by his or her previous behaviour, may have been a strong determinant of current experiences.

The transactional view also applies to maladaptive as well as adaptive outcomes, providing a framework for understanding how multiple factors can influence the emergence of mental health problems in children and adolescents²⁰. As Cicchetti and Schneider-Rosen (1986) note, causation of problem behaviours cannot be reduced to a single cause. For these writers, causes can be seen as either 'permissive' or 'efficient'. 'Permissive' causes are dispositions towards certain behaviours while 'efficient' causes bring these dispositions to realisation. For example, the causes of depression may include biological, psychological and sociocultural variables. In some cases, a genetic biological factor may act as a 'permissive' cause by predisposing the child to depression; depression may then be realised by an immediate psychological event (the 'efficient' cause), such as the death of a friend. In other cases, the 'permissive' cause may be psychological, such as a pattern of thinking negative thoughts; depression may then occur due to an immediate social event and/or biochemical changes (the 'efficient' cause). To add to this complexity, causative factors (regardless of whether they are 'permissive' or 'efficient') may vary according to the individual's developmental level and there may be causes in which no factor is clearly 'permissive'. Here, different influences may add or multiply and reach a threshold to produce an adverse outcome²¹.

19. When a direct effect is operating, variable X leads directly to variable Y. Indirect effects are operating when X influences one of more other variables, which eventually leads to Y.

20. The model is especially helpful in that it views the multiple transactions among environmental forces, caregiver characteristics and child characteristics as dynamic, reciprocal contributions that may exacerbate or decrease the likelihood of the development of a disorder. Similarly, the Population Health Model describes the full range of health determinants as comprising factors at the individual, family, community, sector/system and society level (Hamilton and Bhatti 1996).

21. An excellent illustration of this is in Cicchetti and Toth's (1998) paper which demonstrates the usefulness of applying a developmental psychopathology conceptualisation to the depressive disorders of childhood and adolescence.

The timing of experience

The timing of experience is also seen as important in development (Rutter 1989). Developmental theorists have been particularly interested in the influence of early experience on the origin of behavioural and emotional problems, based in part upon animal research and also on theoretical propositions which hypothesise why early experience might crucially influence human growth (for example, Freud). The extreme position about early experience argues that the first few years of life are critical in that they set much later development. In contrast, the more moderate view asserts that early life may be a sensitive period but that no one experience sets an irretrievable path through life (for example, Garmezy and Rutter 1983). For these latter authors, humans are seen as malleable, most developmental outcomes are determined by many variables and later experience can often moderate what has gone before.

Causes and consequences: Effects of risk and protective factors

The investigation of risk and protective factors as they relate to the development of maladaptation and/or psychopathology has been a popular area of research in the past few decades (e.g. Cohen, Burt and Bjorck 1987; Compas, Howell, Phares et al 1989; Dubow and Luster 1990; Garmezy, Masten and Tellegen 1984; Nettles and Pleck 1994; Quinn 1995; Seifer and Sameroff 1987; Werner and Smith 1992). Indeed, the journal *Developmental Psychopathology* frequently contains reports of empirical research in the area. A number of writers have reviewed some of the research (Anthony and Cohler 1987; Garmezy and Rutter 1983; Haggerty, Sherrod, Garmezy and Rutter 1996; Mrazek and Haggerty 1994; Rolf, Masten, Cicchetti et al 1990) and a brief summary of the major findings relating to the effects of stressors and protective factors follows.

Risk factors

It is important to define some of the key concepts utilised in the writings on risk and protective factors. The concept of risk is continually being refined. The literature suggests that different types of risk exist, including risk traits, contextual risks and stressful life events. Understanding risk is further complicated by related concepts such as cumulative risk, risk chains and risk processes. Based on the work of Coie, Watts, West et al (1993) and Fraser (1997), risk factors are defined as any influences that increase the probability of onset, regression to a more serious state, or maintenance of a problem condition. Risk factors range from prenatal biological to

broad environmental conditions that affect children. Fraser (1997:11) observes that this definition of risk factors encompasses individual (both biological and dispositional characteristics) and contextual conditions (including risk traits, contextual effects, stressful events and cumulative stress²²) that elevate the probability of negative future outcomes of children.

A risk trait refers to an individual's predisposition towards developing a specific problem condition (Pellegrini 1990, cited in Fraser 1997:11). Genetic markers are often thought of as risk traits. Contextual effects are environmental conditions such as poverty that have both direct and indirect effects on overall risk²³. Contextual effects often appear to be mediated by variables at the family and individual levels. It is important to note that the literature indicates that no single event produces a negative outcome. Rather, interactional processes shape behaviours and problems over time. Risk processes refer to the mechanisms whereby a risk factor contributes over time to heightened vulnerability.

Fraser (1999) describes 'risk chains' as risk factors that influence vulnerability over time. 'Keystone risks' are relatively more important in precipitating a problem and include being rejected by the prosocial peer group and early parental neglect. The effect of what Fraser (1999) refers to as 'knockout risks' is so profound that it changes the developmental course at that moment. 'Knockout risks' include such events as the death of both parents and arrest on criminal charges.

Effects of risk factors

Many studies have examined the relation between cumulative stressors (that is, the experience of a number of stressors during a specified period of time) and child or adolescent adjustment. Cumulative stressful life events include 'major events' such as parental separation or divorce, birth of a sibling, family members leaving home, death or hospitalisation of a family member, parental loss of a job, and/or daily 'hassles' such as arguments with a family member (DeLongis, Coyne, Dakof et al 1982). Compas (1987) reviewed 32 studies of children and adolescents, noting that most of the studies were cross-sectional in nature and thus were unable to shed light on the potential causal role of stressors. Since his review, a number of prospective

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22. Evidence exists that the cumulation of stress has a major effect on child development and related problems (Coie et al 1993).
 23. Poverty, for instance, may directly affect children by lowering the quality of their food and shelter and may indirectly affect them by placing their parents under constant strain which makes it difficult for the parents to respond consistently to a child's needs.

studies have provided evidence that experiencing an accumulation of stressful events at one point in time is associated with increases over time in adjustment problems. Further, evidence exists that poor academic or behavioural adjustment may lead to increases over time in the experience of stressful events (see Dubow, Tisak, Causey et al 1991), suggesting that experiencing symptoms of psychopathology may affect ways of interacting with the environment that lead to the occurrence of more stressful events.

Further, stressors appear to have a multiplicative rather than an additive relationship to predicting mental health problems (Kazdin and Kagan 1994), as indicated by Rutter's (1979) study of the effects of stressors experienced by a sample of 10 year old children on the Isle of Wight and in inner city London. Rutter found that there was no risk of mental disorder for children who were exposed to only one of six potential risk factors²⁴. However, for children who experienced two or three risk factors concurrently, the risk of disorder increased three fold and for children who experienced four or more stressors, the risk of disorder increased ten fold.

More recently, in the Christchurch Longitudinal Study, it was shown that when there was exposure to 16 or more risk factors (a very high level) a 94 percent likelihood of disorder followed (Fergusson, Horwood and Lynskey 1994).

Clearly, risk is probabilistic: children and adolescents exposed to risk factors are more likely to experience negative outcomes. Yet, it is equally certain that some children who are exposed to a high level of risk manage to overcome the odds (Werner and Smith 1982; 1992) – they are resilient.

The concept of resilience

The study of resilience emerged as a by product of the search for risk factors, with researchers consistently finding that some children who faced stressful, high risk situations fared well in life (Garmezy 1985; Rutter 1987; Werner and Smith 1982; 1992). Resilience is defined by the presence of risk factors in combination with positive forces that contribute to adaptive outcomes (Garmezy 1993), a framework which describes three broad types of resilience. The first, commonly referred to as 'overcoming the odds', is defined by the attainment of positive outcomes despite

24. These risk factors were marital discord, low socio-economic status, overcrowding in the family, paternal criminality, maternal psychiatric disorder, and admission into an out-of-home placement.

high risk status. The second concept of resilience is grounded in the literature on stress and coping and refers to 'sustained competence under stress'. Coping in this area refers to a child's efforts, including both thought and action, to restore or maintain internal or external equilibrium (Masten, Best and Garmezy 1990). The third concept of resilience refers to 'recovery from trauma', a type of resilience evident in children who function well after an intensely stressful event (for example, sexual abuse).

Importantly, resilience is time dependent, domain specific and will change developmentally (Fraser 1997:14-16)²⁵.

Protective factors

In contrast to risk factors, protective factors refer to conditions that improve people's resistance to risk factors and disorders. As with the concept of 'risk', 'protective factor' has not been clearly or consistently defined. Some writers distinguish between 'resilience factors' as those that are internal to the child and 'protective factors' as those that are external (Seifer, Sameroff, Baldwin et al 1992). Some have adopted a broader definition in which individual protective factors are differentiated from environmental protective factors while others (Rutter 1979) have argued that protective factors can be defined only in concert with risk factors because of their interrelatedness.

Effects of protective factors

Garmezy and Rutter (1983) and Garmezy (1985) have identified three broad categories of protective variables that promote resilience in childhood. The first refers to dispositional attributes (including temperamental factors, social orientation and responsiveness to change, cognitive abilities and coping skills). The second category of protective factors is the family milieu²⁶ while the third category encompasses attributes of the extrafamilial family environment (for example the availability of external resources and extended family supports as well as the individual's use of those resources). Cowen and Work (1988) and Luthar and Zigler (1991) have provided examples of this triad of factors.

25. Detailed information on the concept and development of resilience can be found in Masten et al (1990); Rutter (1990); Werner (1990); Garmezy (1996); Fuller (1998) and Benard (1998).

26. A positive relationship with at least one parent or a parental figure serves an important protective function. Other important family variables include cohesion, warmth, harmony and absence of neglect (Garmezy 1985).

Interactions between risk and protective factors

Fraser (1997:17-18) has identified two basic models of interaction between risk and protective factors, additive models and interactive models. In additive models, protective factors are said to exhibit main effects, direct effects or compensatory effects and the presence of a risk factor directly increases the likelihood of a particularly negative outcome while the presence of a protective factor directly increases the likelihood of a positive outcome (Luthar 1991; Masten 1987). Risk and protection are thought to counterbalance each other.

The interactive model as espoused by Rutter (1979; 1983) employs the term 'interactive' to describe risk and protective dynamics. In these models, protective factors are thought to exert little influence when stress is low but their effect emerges when stress is high (Masten 1987). Within this framework, protective factors have been conceptualised in three ways:

- as a buffer, serving as a cushion against the negative effects of risk factors;
- as a means of interrupting the risk chain through which risk factors operate²⁷;
- as preventing the initial occurrence of a risk factor²⁸.

Interactions among risk and protective factors are further complicated by the fact that both types of influence exist at many different levels in the ecology (Fraser 1997:18). Risk and protective factors have been identified within the individual, in the immediate family or school environment and in the broader social environment, as depicted in Table 1. Researchers (cf Seifer and Sameroff 1987) repeatedly debate which level of the system levels has the greater effect on resilience. However, it is widely believed that 'distal factors', those that are situated farther away from the child (for example, in the environment) are less influential than 'proximal factors' which impinge directly on the child.

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27. Hawkins et al (1992) suggest that reducing family conflict may prevent early experimentation with drugs, which is in turn a risk factor for greater use of psychoactive substances.
28. Morriset (1993 cited in Fraser 1997:18) notes that positive temperamental characteristics such as being easy to soothe, affectionate and good-natured may protect children from abuse or neglect, for example, by enabling them to elicit positive responses from their caregivers.

Table 1: Common risk and protective factors for serious childhood social problems: An ecological and multisystems perspective (Fraser 1997:20)

| System level | Risk factors | Protective factors |
|--|---|--|
| Broad environmental conditions | Few opportunities for education and employment Racial discrimination and injustice | Many opportunities for education, employment, growth and achievement |
| Family, school and neighbourhood conditions | Poverty/low SES Child maltreatment Interparental conflict Parental psychopathology Poor parenting | Social support Presence of caring/ supportive adult Positive parent-child relationship Effective parenting |
| Individual psychosocial and biological characteristics | Gender Biomedical problems | “Easy” temperament as an infant Self-esteem and self-efficacy Competence in normative roles High intelligence |

Mapping pathways and predicting disorders: Change and continuity

Developmental pathways are basically roadmaps illustrating the course of adjustment and maladjustment over time (Durlak 1997:13). Developmental psychologists have long been interested in the possible links between early and later social, emotional and intellectual behaviours. While both change and continuity can be anticipated throughout an individual's life, specific outcomes probably vary with the behaviour observed, as well as other variables such as gender and environmental demands for change or stability. There can be different pathways for single behaviours and constellations of behaviours, for competencies and problems, and for different populations (Durlak 1997:13). For example, five major developmental pathways have been identified in adolescence (Compas, Hinden and Gerhardt 1995) which illustrate the principles of developmental continuity and discontinuity and which are probably associated with different combinations of risk and protective factors²⁹. Given this, the difficulties involved in tracing the course of any disorder over time become apparent. Indeed, as Cicchetti (1995:8) observes, diversity in process and outcome are hallmarks of the developmental psychopathology framework. Hence, it is anticipated that there are multiple contributors to disordered outcomes in any individual and that the contributors vary among individuals who have a specific disorder, despite the fact that there may be homogeneity in the features of the disturbance.

While the literature on risk and protective factors has provided a wealth of valuable information on possible developmental influences, both in terms of adaptive and maladaptive behaviour, research into the interactive effects of risk and protective factors and their role in development is inconclusive. It appears that the processes of interaction are complex and nonlinear (Coie et al 1993). Moreover, risk factors have complex relationships with clinical disorders. Specific forms of dysfunctions are typically associated with many different risk factors (See Table 2 and Appendix A), rather than with a single risk factor and the salience of risk factors may fluctuate developmentally. Similarly, a particular risk factor is rarely specific to a single disorder because causes of illness tend to spread their effects over a number of adaptive functions in the course of development: hence, diverse disorders share fundamental risk factors in common (Coie et al 1993). (Table 2³⁰ and Appendix A

29. These can be characterised as stable adaptive functioning (Path 1), stable maladaptive functioning (Path 2), adolescent turnaround (Path 3), adolescent decline (Path 4) and temporary deviation or maladaptation during adolescence (Path 5). See Compas, Hinden & Gerhardt (1995:268-269) for a further explanation of these.

30. Table 2 presents some of the factors likely to influence the development of mental health problems and mental disorder. The evidence for these factors varies. Generally, however, they are accepted by practitioners and researchers as important factors to consider as potential contributors to the development of mental health problems.

demonstrate this). 'Equifinality' refers to the observation that a diversity of paths may lead to the same outcome – that is, a variety of developmental progressions may eventuate in a given disorder rather than expecting a singular primary pathway to the disorder. In contrast, 'multifinality' suggests that any component may function differently, dependent on the organization to which it is attached³¹ (Cicchetti and Toth, 1997).

Table 2: Factors influencing the development of mental health problems

| Risk factors | Protective factors |
|--|---|
| <p>Environmental</p> <ul style="list-style-type: none"> Poverty Housing conditions Unemployment Family size Parent marital status Marital conflict Poor parenting skills Parent psychopathology, alcoholism, drug use Exposure to negative life events (eg, bereavements, family separation, trauma, family illness) Life transitions (eg, school change) | <ul style="list-style-type: none"> Positive peer relationships Social support (elders and peers) Family structure and cohesion Positive parent-child relations (with at least one parent) |
| <p>Child characteristics</p> <ul style="list-style-type: none"> Genetic influences Biological influences (prenatal, perinatal and postnatal) Irritable early temperament Cognitive style Low IQ Academic failure | <ul style="list-style-type: none"> Coping skills repertoire Social skills Problem-solving skills Cognitive style Strong intellectual skills Academic competence and achievement |

Source: adapted from Spence (1996a:8)

31. For example, having an insecure attachment relationship with a primary caregiver in childhood may eventuate in any number of outcomes for children, depending on the context of their environments and their individual genetic predisposition, competencies and coping strategies.

The continuity of problem behaviour and childhood disorders

Both continuity and discontinuity of problem behaviours and childhood disorders exists. Longitudinal studies have attempted to trace the long term outcome of child psychiatric disorders including depression (Harrington, Fudge, Rutter et al 1990; 1991; Harrington, Bredenkamp, Groothues et al 1994), hyperkinetic disorders (Klein and Manuzza 1991), obsessive-compulsive disorders (Thomsen 1994) and schizophrenia (Eggers 1978; Howells and Guirguis 1984). A recent study (Steinhausen, Meier and Angst 1998) has focused on the long term outcome of child and adolescent psychiatric disorders in males. The available evidence suggests that long term outcomes of childhood disorders are variable, depending on the disorder and according to risk factors (Hechtman 1996). Both continuities and discontinuities occur but, in general, the type of diagnosis in childhood is not a predictor of adult outcome (Cantwell and Baker 1989; Steinhausen et al 1998:383). Steinhausen et al (1998:383) found that one out of four former male child psychiatric patients up to the age of 36 years developed a major adult psychiatric disorder and three in ten became either delinquent or mentally ill. Further, the likelihood of having a poor outcome in adult life was significantly increased if either deprived environments or a broken home or a parental psychiatric disorder were present. These factors appeared to maintain the persistence of maladjustment across the lifespan.

Developmental approaches to intervening in the pathways of mental disorders

The developmental psychopathological approach has resulted in moves towards developmental approaches to intervening in the pathways of mental disorders. Such approaches do not see life as marked by one steady march towards adulthood that is set early in life, or one steady line of change, either for better or worse. Instead, what occurs is a series of life phases, a series of points of change, a series of transitions. These phases and transition points are where interventions may be more effective, because at each of these transition points there is the possibility of more than one outcome. Essentially developmental approaches are characterised by an emphasis on pathways and on aspects of time and timing.

Having presented an underlying conceptual framework and explored the key concepts in developmental psychopathology, the review now moves to a historical overview of prevention activities in the mental health field.

Chapter 4

Prevention of mental disorders

Historical overview of preventive efforts in mental disorders

Interest in the notion of prevention in mental health has a long history. Spaulding and Balch (1983) note the existence of the American reform group, "The National Association for the Protection of the Insane and the Prevention of Insanity" in 1880 while in the mid nineteenth century, superintendents of American asylums considered that prevention efforts should be directed towards high risk populations (including children of the insane and isolated people) (Raphael 1986:393). Today, health promotion and prevention of illness are major elements of some countries' approaches to mental health policy (Kemp 1993:7). Canada, for example, focuses on health promotion through fostering healthy, adaptive behaviours such as parenting practices, social skills development, and lifelong learning, and on the prevention of maladaptive behaviours such as alcohol and drug use, suicide and child abuse. Lakaski, Wilmot, Lips and Brown (1993) observe that creating environments and policies that support these approaches is a high priority in Canada. Argentina, too, has also focused on primary and secondary prevention of mental disorders since the return of democracy in 1984 (Fiasche, Fiszbein, Gorelick and Fakiel 1993).

United States

In the early part of the twentieth century, the National Association for Mental Health was established in the United States of America. The Child Guidance Movement (1920-1955), whose work was based on the premise that adult pathology could be prevented by efforts to correct childhood behaviour problems, was a further milestone in the development of prevention as was the emergence in the 1950s of mental hygiene courses covering sex education, human relationship studies and marriage (Raphael 1986:393). Genetic focused approaches which aimed to prevent the passage of defective genes, for example, by the banning of marriage between mentally defective individuals, were also employed.

Significant changes had occurred by the 1960s. In the Community Mental Health Services Act of 1963 in the United States of America, while primary prevention per se was not listed as one of the essential services, preventive interest was served to some extent, by the requirement to include consultation and educative services. This approach was paralleled in Australia in the development of community mental health centres in some States, largely as a result of the nationally funded Community Health Program, with similar aims to its United States counterpart.

In 1978, The US President's Commission on Mental Health recommended provision for primary prevention, and a National Centre for Prevention with the major goals of preventing new cases of mental disorder, reducing the impact of stresses in life crises by developing coping skills, and promoting the strengths, resources and competencies of individuals, families and communities (Raphael 1986:393). The report resulted in the Mental Health Systems Act of 1980.

Since the 1990s, there have been a number of key developments in the United States in the field of prevention of mental disorders. In 1990, the American Psychiatric Association published a report prepared by the Task Force on Prevention Research of the Council on Research with a review of the research on the prevention of psychiatric disorders (Mrazek and Haggerty 1994:492). In the same year, the National Institute of Mental Health (NIMH) held its first national conference on prevention research and a National Institute of Mental Health Steering Committee was established to write a report on the current status of prevention research within the NIMH. This was followed by the establishment of the Institute of Medicine (IOM) Committee on Prevention of Mental Disorders in 1992 and by the release of *The Prevention of Mental Disorders: A National Research Agenda* in 1993 by the NIMH Steering Committee on Prevention at the Third NIMH National Conference on Prevention Research (Mrazek and Haggerty 1994:492). The US National Health Promotion and Disease Prevention Objectives, Healthy People 2000 (cited in Raphael, 1993:24), also identified key mental health objectives. These included:

- reductions in suicide and suicide attempts;
- reduction of the prevalence of mental disorder in children and adolescents, and adults living in the community;
- reduction of the adverse effects on health, of stress; and
- a range of objectives related to enhanced access to treatment and early treatment of depression and emotional problems.

As Raphael (1993:24) comments, such developments represent an important commitment to prevention and early intervention to the mental health field, as well as to service provision.

United Kingdom

Raphael (1993:24) notes that the United Kingdom, in its 1983 policies for a National Strategy for Health Education and Health Promotion, also presents goals regarding the prevention of psychiatric disorders, promoting mental and physical well being. She further comments on the significant contribution provided by Goldberg and Tantam (1991) entitled *The Public Health Impact of Mental Disorder* which drew together data on public health and many prevention initiatives in the United Kingdom and some other areas (ibid, page 25). Notwithstanding these comments, developments in the United Kingdom are somewhat disappointing. Goldie and Sayce (1993:410) in their review of mental health policy in the United Kingdom note that mental health services are still very uneven in terms of their quality and quantity.

Australian developments

Until recently in Australia, mental health promotion and prevention programs developed in a largely ad hoc and uncoordinated manner with only a few well researched initiatives (Raphael 1986:394). However, since the 1980s, there has been a growing emphasis on prevention in health generally which has encompassed the area of mental health and has been influenced in part by the comprehensive literature reviews conducted by Raphael (1986, 1993). These highlighted some of the possibilities for prevention in the field of mental health.

In addition, a range of other initiatives from the Commonwealth Government have heightened interest and put mental illness prevention on the agenda. The National Mental Health Strategy (discussed in the Introduction) has provided an overarching policy direction that has generated many of these initiatives. Further, mental health has been recognised by the Commonwealth government as one of six national priority health areas (NHPA)³², exemplified by the recently released major report on mental health, *National Health Priority Areas Report: Mental Health 1998*, focusing on depression (Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare 1999). These initiatives and related publications recognise that an effective population response to mental illness will encompass effective promotion, prevention and intervention and treatment strategies (Rickwood 2000).

32. The NHPA process involves various levels of government, the National Health and Medical Research Council and the Australian Institute of Health and Welfare, and draws on expert advice from the non-government sector.

Preventive efforts in the mental health problems of children and adolescents

Durlak (1997:17) notes that prevention has at least a 100 year history in the United States, and that young people have always been seen as prime targets for preventive efforts. He further comments that although the same terms were not used, early efforts at prevention foreshadowed many of the same principles and concepts as contemporary programs, including a focus on health promotion, early intervention, targeting of high risk groups, and environmental interventions designed to modify the home, school, and community (Durlak 1997:17-18). A report of the American Academy of Child and Adolescent Psychiatry (1990:2) observes that from the beginning of the twentieth century, when clinics were conducted in the early juvenile courts in America, prevention was one of the driving concepts in the field of child mental health. Much of that early effort was directed at the prevention of adult problems, notably criminality, with the belief that if children and adolescents (especially those with delinquent tendencies), could receive guidance early enough, society might be saved from the effects of later disturbances. At this time, however, there was little appreciation of the interaction of psychopathology with development³³. Further, treatment for abused, disturbed or distressed children was virtually non existent (The American Academy of Child and Adolescent Psychiatry 1990).

The new century did, however, bring significant energy and optimism with social change seen as both possible and necessary. In the United States of America in the 1920, several preventively oriented school programs appeared with specially trained visiting teachers entering classrooms to educate regular teachers on preventive concepts (Durlak 1997:19). Long (1989) has described the appearance of preventive curricula taught by teachers and designed to enhance self esteem and improve social functioning during the early 1940s along with the development of social intervention programs for high risk school children.

Developments in the field of psychiatry were also occurring. Freud's influence emphasised the importance of early childhood experience on development and the Yale Clinic was established in the early part of the century. In 1930, child psychiatry was established at Johns Hopkins Medical School while in 1935 Leo Kanner published the first textbook in child psychiatry. These early roots of child psychiatry in 1930s had private foundations emphasising support of prevention. "It was their

33. Children and families received relatively little support or attention from policy makers; public education wasn't universal; there were no national child labour laws; and support for orphaned children and impoverished families was scarce. (American Academy of Child and Adolescent Psychiatry 1990:2).

hope and intention that if mental illness could be diagnosed and treated in childhood, the incidence in adults would decrease" (Shaffer, Phillips, Enzer et al 1989:2). To pursue this effort, demonstration clinics were established in major cities of the US.

Durlak (1997:19) describes the period between 1950 and 1970 as a time of some interest but relatively little activity in prevention. The American Academy of Child Psychiatry was formed in 1953 and child psychiatry took its place as a sub specialty in 1959. The American Academy of Child and Adolescent Psychiatry (1990) observes that the 1960s and 1970s brought a renewed interest in child welfare and child mental health in the United States of America. In addition to introducing the Community Mental Health Centre program in 1963, Congress also established Head Start in 1965. Medicaid was enacted in 1965 and a program of Early and Periodic Screening, Diagnosis and Treatment was initiated³⁴. Other developments included the formation of the Office of Child Development in 1969, the enacting of the Education for All Handicapped Children Act in 1975 and the establishment of federal models for prevention of child abuse. The knowledge base grew and research in child and adolescent psychiatry broadened with increasing efforts to develop biopsychosocial models. Despite these efforts, illness in children proved difficult to treat and short term treatments became longer and longer (Shaffer et al 1989:2). Further, there was little if any reduction in prevalence of mental disorders in children and young people (American Academy of Child and Adolescent Psychiatry 1990:3), due in part to difficulties to accessing care.

'Project Future' was initiated by the American Academy of Child and Adolescent Psychiatry in 1978 as a means of clarifying the current and future role of child psychiatry in meeting psychiatric needs of a nation's children and adolescents (American Academy of Child and Adolescent Psychiatry 1990). The final report from this project, *Child Psychiatry: A Plan for the Coming Decades*, was published in 1983 and included a variety of recommendations to the field about clinical services, education and training of child psychiatrists, research, recruitment, development of professional resources, organisational issues and roles of child psychiatrists. Of particular interest was one specific recommendation which stated:

Child psychiatry (should) investigate prevention strategies and techniques to lower the incidence of psychiatric illness in children. Child psychiatrists should seek opportunities to deliver primary and secondary preventive care to at risk populations (American Academy of Child and Adolescent Psychiatry 1990).

34. The literature suggests that this was never adequately funded or utilised.

Accompanying this recommendation was the acknowledgement that prevention is a complex issue and that simple cause and effect models are inadequate. However, specific groups of children at risk for psychiatric disturbances were identified³⁵. This publication was followed by the release of *A National Plan for Research on Child and Adolescent Mental Disorders* (National Advisory Mental Health Council), which emphasised scientific research concerning biomedical risk factors and capacity building for scientific researchers (Mrazek and Haggerty 1994:492).

The move towards the development of a prevention science

Coie et al (1993:1013) assert that it is only in the last few decades that the concept of prevention as it is used in public health has been taken seriously in the mental health field (Caplan 1964). They describe the development of a new research discipline, 'prevention science', which is being "forged at the interfaces of psychopathology, criminology, psychiatric epidemiology, human development and education. Its goal is to prevent or moderate major human dysfunctions" (Coie et al 1993:1013). Prevention research is focused primarily on the systematic study of potential precursors of dysfunction – that is, on risk and protective factors respectively. Principles for prevention science³⁶ and future research directions³⁷ are articulated by Coie et al (1993). A subsequent article by Price (1997) similarly argues for a cumulative prevention science.

Prevention in mental disorders is obviously not a new idea. However, translating this into effective action is much more difficult. As Durlak (1997:1) opines, prevention is in fact a multidisciplinary science that draws upon basic and applied

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35. These were: children and adolescents with chronic illness or impairment, children whose parents suffer from psychiatric disorders, pregnant adolescents and their children, children in foster care, abused children and children of alcoholic parents (American Academy of Child and Adolescent Psychiatry 1990:3).
 36. These include: prevention trials address fundamental causal processes; optimally, risk factors are addressed before they stabilise as predictors of dysfunction; prevention trials target primarily those at high risk; effective prevention requires coordinated action in each domain of functioning implicated in the risk model being tested (Coie et al 1993).
 37. (1) Models of explanation and prediction should incorporate dynamic developmental processes in predictors, outcomes, and moderators; (2) developmental models should emphasise the complex interactions between individuals and their environments, between systems of influence, and across periods of time; (3) prevention trials should be guided by developmental theory and yield results that reflectively inform and revise the original theory; (4) diagnostic models should consider character development, severity of psychosocial stressors, and general vocational and social functioning as a complement to information and clinical symptoms; (5) models of prevention should consider intermediate outcomes and processes as well as long term outcomes such as adult dysfunction and diagnosable disorder; (6) prevention science should advance our knowledge about protective factors as well as risk factors; (7) both continuous and categorical variables have a place in prevention models; (8) increasing emphasis should be placed on studying early protective and risk factors that appear common to many disorders; (9) there is a role for universal preventions to promote health in broad populations and more focused interventions to prevent severe disorders in targeted populations at risk; (10) prevention research needs greater methodological rigor, including more attention to adequate sampling, measurement issues, and appropriate statistical models (Coie et al 1993).

research from at least 15 major disciplines. While there have been at least 1200 published outcome studies of preventive interventions, 90.4% of all studies appeared after 1975 and 30.5% appeared after 1990, demonstrating it is a very young science (Durlak 1997:21). As has been illustrated, research is only beginning to attempt to articulate the specific developmental course of major childhood problems that would permit preventionists to time interventions and to assess their impact most effectively. This is but one of the critical questions facing current approaches to prevention. Further, the specific aetiologies of mental disorders are unknown and probably multiply determined, suggesting the need for complex, multicomponent programs (Durlak and Wells 1997:116).

Before identifying and discussing some of the challenges involved in researching and evaluating preventive activities, it is necessary to critically analyse the concept of prevention of mental disorders.

Definitions of prevention

Definitional confusion surrounds the concept 'prevention'. This appears to arise from the varied use of terminology, as has been demonstrated by the recent content analysis of prevention definitions in the general prevention literature conducted by Coohy and Marsh (1995). Within the literature related specifically to mental disorders, a number of writers (cf Cowen 1983) have highlighted the array of terms that are used, namely 'prevention', 'prevention in mental health', 'primary prevention', 'mental health promotion', 'psychiatric prevention', noting that while these all have differences in meaning and emphasis, they are used interchangeably.

What does 'to prevent' mean? *To keep something from happening.* Do we mean by this preventing the general state of human misery, or more particularly the risk factors which lead to specific mental illness? Do we mean one or more specific symptoms of mental ill health, the first appearance of a clearly diagnosable illness, the length of the treatment which may be necessary, relapse or recurrence, the associated disability or the longer term sequelae? The term prevention is often used in each of these stages of illness. To further confuse the issues, experts are not completely clear about what we mean by 'mental health'. We call our services Mental Health Services, yet they focus on ill health and illness.

Definitions of mental health are somewhat difficult to operationalise; this makes it complex to develop targeted strategies. The complex interaction between mental

health and symptoms, disorder and illness is sometimes difficult to pin down; this makes it hard to persuade funding bodies that costs of mental ill health might be in part prevented by developing public health strategies to build mental health.

The distinction traditionally used to describe prevention as a strategy method was proposed by Caplan (1964)³⁸. He proposed three forms of prevention: primary prevention (which relates to initiatives to prevent the development of disorder), secondary prevention (which relates to early intervention to limit disorder), and tertiary prevention (which improves efforts to reduce the effects and adverse consequences of disorder). This mirrors closely the public health classification system of primary, secondary and tertiary prevention (Commission on Chronic Illness 1957).

More recently, a comprehensive report mandated by the United States Congress (Mrazek and Haggerty 1994) on the state of the science of prevention in mental disorders has recommended a stricter definition of the term prevention. The report noted the considerable disagreement about the usage of the traditional public health classification system of primary, secondary and tertiary prevention. For example, case finding has sometimes been called secondary 'prevention', even though individuals so identified already meet criteria for the disorder in question and thus the disorder can no longer be *prevented*, and must instead be *treated*.

The committee therefore proposed a mental health intervention spectrum for mental disorders consisting of three main levels: prevention, treatment and maintenance (See Figure 2). It was recommended that the term 'prevention' be reserved for only those interventions that occur before the initial onset of a clinically diagnosable disorder. Once a person meets criteria for a disorder, interventions focused on that disorder are considered to be in the realm of treatment. Treatment interventions include case identification and the standard types of mental health treatment services currently available. Maintenance interventions are those that occur after the acute episode of a mental disorder has subsided and may include interventions designed to reduce relapse and recurrence as well as rehabilitative services (Mrazek and Haggerty 1994). As Munoz, Mrazek and Haggerty (1996:1118) stress, these are elements of appropriate treatment, but not prevention.

38. The initial concept of prevention was rooted in a public health (community) perspective and so 'pure' prevention (primary prevention) was aimed at groups and communities believed to be at increased risk for the development of a disorder or dysfunction.

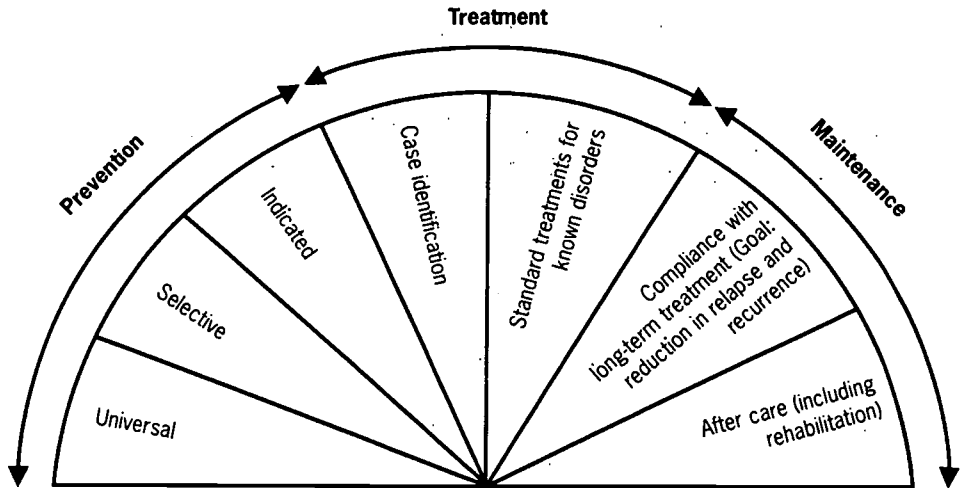


Figure 2: The mental health intervention spectrum for mental disorders (Mrazek and Haggerty 1994)

For the Institute of Medicine (in Mrazek and Haggerty 1994), preventive interventions are broken down into three areas: universal, selective and indicated preventive interventions, as depicted in Table 3. Universal preventive interventions are defined as interventions for mental disorders that are targeted to the general population or a whole population group that has not been identified on the basis of individual risk³⁹. Selective preventive interventions are those interventions that are targeted to individuals or a subgroup of the population who are at high risk of developing a mental disorder at some point in their lifetime⁴⁰. The third area, indicated prevention interventions, are defined as those interventions that are targeted to high risk individuals who do not meet the DSM-IV criteria presently for a mental disorder, but who are otherwise identified as having minimal but detectable signs or symptoms of a mental disorder or who have a biological marker indicating predisposition for the mental disorder⁴¹ (Mrazek and Haggerty 1994). The term 'indicated' is used differently from that used by Gordon (1983). He meant it only to apply to asymptomatic individuals whereas, within this system, it can be applied to asymptomatic individuals with markers as well as symptomatic individuals whose symptoms are still early and are not sufficiently severe to merit a diagnosis.

39. Such interventions have advantages when their total cost per individual is low, and the intervention is effective and acceptable to the population, and there is a low risk from the intervention.

40. Risk groups may be identified on the basis of biological, psychological or social risk factors that are known to be associated with the onset of a mental disorder. These interventions are most appropriate if they don't exceed a moderate level of cost and if negative effects are minimal or nonexistent.

41. Indicated interventions may be reasonable even if the intervention costs are high and even if the intervention entails some risks.

Table 3: Definitions and examples of preventive interventions

| Type of intervention | Definition | Examples |
|----------------------|---|--|
| Universal | 'targeted to the general public or a whole population group that has not been identified on the basis of individual risk' (Mrazek and Haggerty 1994:24) | Pre-natal care General parenting programs Relaxation, meditation |
| Selective | 'targeted to individuals or a subgroup of the population whose risk of developing mental disorders is significantly higher than average ... The risk may be imminent or it may be a lifetime risk. Risk groups may be identified on the basis of biological, psychological, or social risk factors that are known to be associated with the onset of mental disorder' (Mrazek and Haggerty 1994:25) | Home visitation and day care for low-birthweight infants Educational preschool programs for children from disadvantaged communities Support for children of parents with mental illness Youth programs Social support groups for young mothers Single-parent supports Bereavement support groups |
| Indicated | 'targeted to high-risk individuals who are identified as having minimal but detectable signs and symptoms foreshadowing mental disorder, or biological markers indicating predisposition for mental disorder, but who do not meet DSM-IV diagnostic levels at the current time' (Mrazek and Haggerty 1994:25) | Training programs for children with some signs of behaviour problems Targeted depression prevention programs in schools |

Note: adapted from Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare (1999:3) and Mrazek and Haggerty (1994)

It should be noted that the model presented in Figure 2 is an idealised conceptualisation. The distinctions between the different types of interventions are not as clearly delineated as schematically indicated. Many interventions straddle more than one segment of the model. A model that better reflects reality would show a more gradual merging of the sectors into each other. Moreover, the appropriateness of the model to specific populations must also be considered⁴². This stresses the overlap between a wellness focus and an illness focus. For example, Hunter (1998; 1999) and Hunter and Garvey (1998) have examined the spectrum of intervention in mental health in terms of its applicability to Aboriginal and Torres Strait Islander peoples. Hunter (1999:9) has offered a reconceptualisation of the model as depicted in Figure 3.

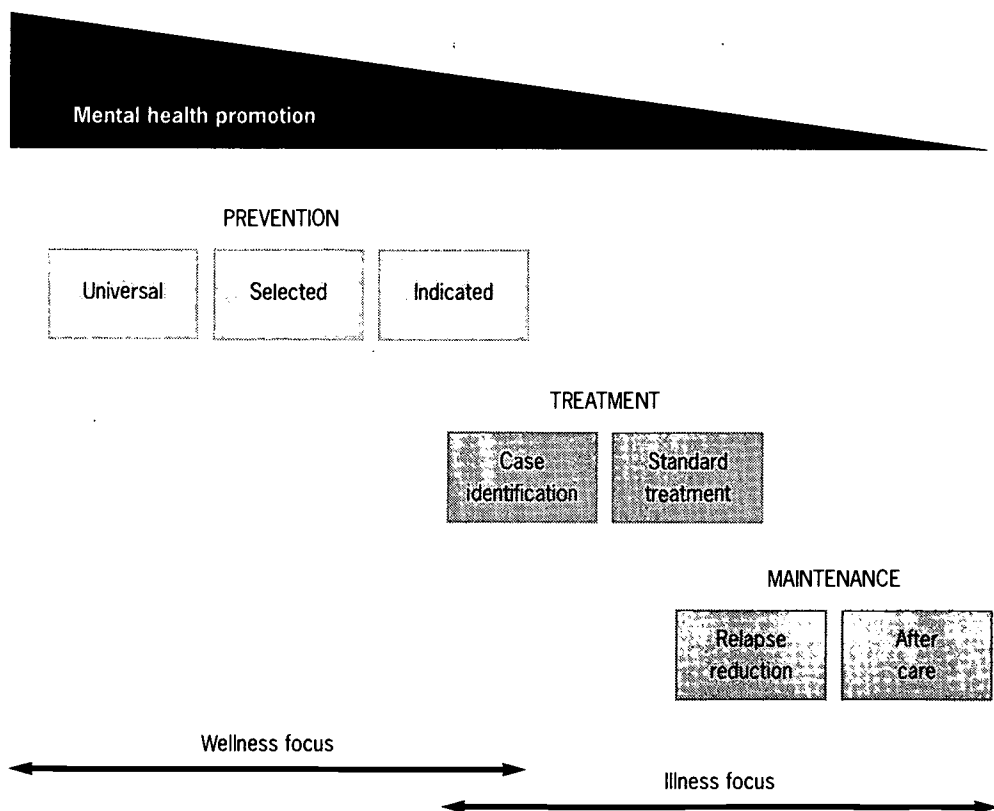


Figure 3: Mental health spectrum of interventions (Hunter 1999:9)

42. While the Mrazek and Haggerty (1994) model has not been specifically applied to mental disorders in children and young people, Smyer in Gatz (1995) has applied the model to the aged and mental health issues.

As Figure 3 indicates, 'mental health promotion'⁴³ is relevant across the whole spectrum of interventions. It focuses on the development and support of wellness across individuals and groups (Hunter 1999:6) and is therefore always relevant, regardless of whether a person is currently mentally healthy or not. Mental health promotion activities aim to protect, support and sustain the emotional and social well being of the population by increasing the protective factors that lead to positive mental health outcomes across the entire intervention spectrum, that is, before, during and after the onset of mental illness. As Rickwood (2000) observes, the defined goals of promotion and prevention are different. Promotion activities aim to improve mental health and prevention activities aim to prevent the development of mental health problems even though interventions often adopt similar approaches and produce similar outcomes. Thus, a mental health promotion intervention aimed at increasing wellbeing in a community may also have the effect of decreasing the incidence of mental illness in that community (ibid).

Where does 'early intervention' fit?

43. Mental health promotion aims to optimise mental health and well being in individuals and also in communities. It focuses on improving environments (social, physical and economic) that affect mental health and enhancing the coping capacity of communities as well as individuals (Wood and Wise 1997:42).

Chapter 5

Early intervention

Towards a definition of early intervention

There is a lack of consensus in the literature in relation to the term 'early intervention' as it applies to mental disorders. This is illustrated by the following range of definitions:

1. *Early intervention is a term now used broadly to refer to a wide range of experiences and supports provided to children, parents and families during the pregnancy, infancy, and/or early childhood periods of development (Dunst 1996).*
2. *Early intervention can be defined as some form of helpful input provided shortly after a need has arisen. Its aims are to reduce distress, shorten the episode of care, minimise the intervention required and to reduce costs. Beyond this there are the issues of minimising dependency and enhancing hope (Gardner 1996:143).*
3. *Early intervention is an alternative to the traditional approach of offering interventions to individuals with established emotional disorders... That is, early intervention refers to the process of offering interventions to all individuals, or to individuals who have been identified as showing minor signs of a problem or individuals who are known to be at risk of developing a disorder. Early intervention programs aim to prevent the development of a full-blown disorder by increasing the individual's resilience and positive coping skills (Griffith Early Intervention Program).*
4. *Early intervention is defined as the early identification of cases of psychological disturbance and/or mental disorders followed by timely, effective and appropriate treatment (secondary prevention) aimed at preventing and diminishing disability (Commonwealth Department of Health and Family Services 1997).*

Traditionally, the term 'early intervention' was found in discussions of a child's early background and possibilities of intervening at an early stage (for example, the

impetus for programs focused on social disadvantage such as Head Start⁴⁴). There is a paucity of literature related to early intervention as it applies to mental disorders. So what is 'early intervention'?

'Early intervention' is best described as the somewhat fuzzy interface between the Institute of Medicine's (Mrazek and Haggerty 1994) terms, 'indicated prevention' and 'case identification'. That is, according to Hunter's (1999) model, early intervention is the merging of prevention and treatment and the blurring of the boundaries of wellness and illness. By definition, early intervention must occur early in the pathway to mental disorder, at the point where there are signs and symptoms suggesting an at-risk mental state or indicating a first episode of mental illness. This conceptualisation is drawn from developmental psychopathology and its focus on the development of mental disorders along a pathway, or trajectory, with gradually increasing frequency and severity of symptoms⁴⁵ (Coie et al 1993). Given that there are not clear-cut stages where a disorder is not present at one moment and present at the next, the notion of the 'fuzzy interface' or 'blurring of boundaries' between indicated prevention and case identification appears to afford a useful conceptualisation of early intervention in mental disorders. Rickwood (2000) observes that further blurring may occur if the choice of target is considered appropriate for the use of early intervention screening treatment.

Hence, early intervention in mental disorders is a proactive process of screening, case identification (that is, early detection) and the provision of effective and intensive treatment (Rickwood 2000). The interventions offered are best practice for this phase of a disorder, and not merely the translation of standard treatments developed for later stages of disorder and for more persistent courses of disorder (McGorry, Edwards, Mihalopolous et al 1996). Early intervention contrasts with interventions around the early signs of recurring mental disorder⁴⁶, best referred to as 'relapse prevention' or 'relapse reduction'.

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44. Head Start is probably one of the more well known early childhood programs which began in the USA during the "War on Poverty" in the 1960s. The central idea behind Head Start was to help preschool low income children prepare for elementary school by stimulating their cognitive and social development. As Durlak (1997:58) notes, many Head Start programs did significantly improve children's academic and social development and in many cases, those at greatest risk profited the most (cf Sylva 1994). Unfortunately, follow up studies indicated that many of the gains made from Head Start tended to diminish over time. It has been suggested, however, (see Durlak 1997:58) that the main drawback to Head Start was not that early intervention did not work, but that intervention was neither early nor intensive enough to produce sustained effects.
 45. This has implications for the development of appropriate interventions. The nature and timing of intervention depends, from a developmental perspective, not just on the individual's age, but on the identified pathways to mental disorder and the critical transition points that characterise those pathways (National Crime Prevention 1999, p.11).
 46. When a disorder is established and treatment has been commenced, recognition of the early signs of recurrent disorder and the appropriate treatment responses may be quite different from recognition and treatment of people experiencing first episodes of disorder and early signs and symptoms of disorder (McGorry et al 1996, Vaglum 1996).

Early detection of signs and symptoms

Normality and abnormality are complex issues in mental health. Early intervention relies on identifying symptoms at their earliest onset and manifestation as an indication that something may be going wrong. Yet, despite extensive research into the interaction between risk and protective factors and attempts to establish and delineate the developmental pathways of mental disorders, the probability of whether or not a particular group of signs and symptoms predicates the development of disorder is unknown. "We are still a long way from being able to predict with great accuracy who will develop a particular set of risk and protective variables" (Spence 1996a:14). This is significant given that Spence (1996a:14) further notes: "The current status of risk research still produces a high level of false positives, where individuals who are identified as being at risk due to the presence of a particular risk factor do not go on to develop a full-blown disorder."

If the probability is low, interventions may be undertaken unnecessarily with their attendant potential harmful outcomes, such as stigma and anxiety. Conversely, if the probability is high, intervention is clearly warranted (Rickwood 2000).

Early signs of a developing disorder are:

- the presence of fewer symptoms than those required to diagnose a disorder;
- symptoms that have been present for a shorter period of time; and
- symptoms that are less intense and disruptive than those of diagnosable disorder⁴⁷.

While such symptoms may impact on an individual's mental health they may not constitute a diagnosis of mental disorder.

How might first episodes of mental disorder be detected?

The two main current systems of classification of mental disorder are the International Classification of Diseases (ICD) and the Diagnostic and Statistical Manual (DSM) of the American Psychiatric Association. Diagnoses using either of these systems are possible only when there is a fully developed disorder given that a key criterion is the presence of specified symptoms for a designated length of time and at a particular intensity⁴⁸. Other methods of screening have been developed but

47. The notion of symptoms is complex (Kosky 1998) as while traditionally, symptoms have been derived from clinical experience, symptoms evident in clinical samples and detected by current diagnostic systems have progressed well beyond those that are required to indicate an at risk mental state.

48. See Katona & Robertson 1995:10-11 for a further discussion of diagnosis and classification in psychiatry.

none is without limitations. Attempts have also been made to identify prodromal symptoms for specific disorders but as Kosky (1998:2) comments: "...the search for prodromal symptoms has proved frustrating. In general the sorts of problems or disturbances people show before the onset of major categories of mental illness are very non specific and are shared by many people who never develop the disorders."

Rickwood (2000:11) comments that major issues for evaluating screening tools are their applicability within a particular setting and cultural appropriateness, as well as their sensitivity⁴⁹ and specificity⁵⁰. 'False positives' may occur. This arises when a screening instrument indicates that an individual meets the threshold indicating disorder, but where on clinical interview the individual proves not to have the disorder. As Kosky (1998:2) notes, this could result in interventions which are quite unnecessary and may be harmful, particularly given the stigma that is attached to mental illness. Similarly, 'false negatives' may occur, when the instrument indicates that an individual does not meet the threshold indicating disorder, but where the individual is later shown to have the disorder.

It is evident that more accurate (both in terms of sensitivity and specificity) symptom-identification tools are required for early intervention than those that are currently available. While current diagnostic systems are useful in diagnosing a fully developed clinical disorder, this level of disorder has not, by definition, been reached during the period of an at risk mental state. This highlights the need for further research into the early signs and symptoms of mental disorders, a necessary precursor for the development of appropriate early intervention approaches in mental disorders (Yung and McGorry 1996).

Potential negative outcomes of early intervention

A number of potential negative outcomes of early intervention have been identified in the literature. Spence (1996a:14) discusses the potential detrimental effects of identifying individuals as being 'at risk', stressing that any preventive efforts must ensure that individuals do not become 'labelled' in any way and therefore stigmatised and treated differently by others. A number of authors have noted the negative effects of the stigma attached to mental illness on the psychological well being on the individual (Rosenfield 1997; Markowitz 1998).

49. Sensitivity refers to the ability of the instrument to detect whatever it is designed to detect.

50. Specificity refers to its accuracy in categorising people as either 'well' or 'unwell'.

Falloon (1996) notes that while the potential for stigma is a major argument against early intervention, screening serves to educate people about mental disorders and has considerable benefits and few adverse effects⁵¹. Nevertheless, as Rickwood (2000) notes, fear of the stigma attached to mental disorder is a powerful disincentive to treatment and a major factor in treatment delay.

Another potentially negative outcome of telling people that they are at increased risk of developing a mental disorder is their subsequent anxiety regarding possibility of developing a disorder. Spence (1996a:14) stresses that it is imperative that the process of identification does not generate increased stress and concern on the part of the targeted individual. This is especially important for people who are at risk of developing disorders that can be exacerbated by stress, such as schizophrenia (*ibid*).

Grouping people at risk of developing a particular disorder can also present problems (Spence 1996a:14), as bringing groups of high risk individuals together for prolonged periods of time has the potential that the group will establish its own subculture and norms that may actually increase the likelihood of the problem behaviours developing. This is a particular risk for children identified as being at risk for the development of conduct disorders (*ibid*).

Clearly, the move towards a focus on early intervention in mental disorders is one with many challenges. The next section focuses on models of prevention and early intervention which offer some clues for possible practice.

Models of early intervention

As noted previously, a developmental psychopathological perspective is well suited for explicating pathways to mental disorder. Moreover, this perspective is congruent with prevention's tasks, assumptions and defining characteristics (Sameroff and Fiese 1989). Thus, developmentally based preventive intervention involves intervention early in developmental pathways that lead to mental illness. It emphasises investment in child friendly institutions and communities and the manipulation of multiple risk and protective factors at crucial transition points such as around birth, the preschool years, the transition from primary to high school and the transition from high school to higher education or the workforce (National Crime

51. This was specifically related to schizophrenia in his study.

52. The outcomes of concern are seen as predictable and even 'normal' results of the deviations in developmental conditions, since the mechanisms that lead to predictable developmental outcomes are the same as those that lead to positive ones (Silverman 1995:13).

Prevention 1999). It starts by identifying those developmental processes that relate to 'healthy' forms of the outcomes of concern²². The differences between the desirable processes and those that are being experienced by the target population and lead to the outcomes targeted for prevention are then considered and preventive interventions are aimed at closing this 'gap' (Felner, Brand, Dubois et al 1995).

A number of models for prevention of mental disorder appear in the literature. Silverman (1995) observes that a major dimension on which most prevention efforts can be categorised reflects two quite different assumptions about the specificity and uniqueness of developmental pathways. Single outcome focused preventive programs such as those targeted to substance abuse, delinquency, school failure, depression, youth suicide, and teenage prevention reflect a 'specific disorder prevention model' which rests heavily on classical medical paradigms of disorder. These paradigms hold that dysfunction is caused by specifiable disease agents, germs or conditions that interact with individual vulnerabilities which are identifiable.

In contrast is the perspective that holds that there is a need for a comprehensive, multi-causal, non-specific developmental pathway approach (Felner and Silverman 1989). This model recognises that:

- most of the disorders we seek to prevent have a large number of common risk factors;
- conditions that protect against one disorder generally also protect against others; and
- there are non-specific, personal vulnerabilities that increase an individual's susceptibility to the onset of a wide array of dysfunction.

As has been noted previously, pathways to most of the social, emotional and adaptive difficulties with which we are concerned are generally complex and shared by more than one disorder (see Tables 1 and 2). Hence, as Felner et al (1995) observe, for a wide range of developmental outcomes and pathologies, it appears that efforts to identify specific and unique aetiological 'causal agents' are not appropriate. In addition, the development of one mental disorder increases the likelihood of a range of other mental health problems. This co-occurrence of more than one mental disorder is termed 'comorbidity', a factor which further exacerbates the negative outcomes of mental illness. The high level of comorbidity among disorders underscores the fact that they appear to share a common constellation of antecedent developmental experiences and 'root causes' in their emergent pathways of disorder and dysfunction (Cantwell and Baker 1989; Rutter 1989).

The complex aetiology and pathogenesis of most psychiatric disorders has several important implications. First, no single comprehensive solution will prevent all forms of a particular disorder at all developmental stages or phases. Second, no single factor is a necessary component in the aetiology of all symptoms or signs of a major psychiatric disorder, emotional disturbance or behavioural dysfunction. This has led Silverman (1995:18) to assert that any model for the prevention of mental disorders must allow for many different types of intervention to co-exist in a comprehensive, coordinated and collaborative program. Indeed, the more complex the model of disorder development, the more complex the model of preventive intervention. Hence, in terms of the eventual success or failure of the program effort, context of the intervention becomes crucial and critical as does the anatomy of the program and its attendant characteristics (Silverman 1995:20).

There is a paucity of literature related to practice models of prevention of mental disorder. In the main, existing models provide perspectives on disease development rather than actual interventions. They include the public health model⁵³, the operational model⁵⁴, and the deficit reduction model⁵⁵.

A range of models/approaches for conceptualising and implementing early intervention appear in the literature on at risk children and their families. These have primarily been used with socially disadvantaged children and their families and developmentally disabled children and their families. A brief summary appears in Table 4.

Dunst and Trivette (1997:170) assert that based on what is known about the relationship between risk factors and negative outcomes and between opportunity factors (that is protective factors) and positive outcomes, and what is known about sources of risks and opportunities (child family, environment, program/practitioner), the professional can organise early intervention into one of three approaches or models. The first of these, the *compensatory* model, considers the manner in which early interventions directed at the child or family, or both, are expected to compensate for the influences of any number of extra family

53. This model identifies three intersecting, overlapping circles of influence: host, agent and environment, examining disease development from a causal aetiological perspective in that assignment of contributing factors is in three spheres.

54. Gordon's (1983) model has an intervention focus and is not based on causality or aetiology. His three categories of interventions (universal procedures, selective procedures and indicated procedures) are based on how the target groups are identified.

55. This model applies concepts of developmental psychopathology to the construction of models (Cicchetti 1990b). Its focus is on the problem residing within an individual, asserting that prevention efforts need to be addressed at stemming the expression of these pre-existing deficits.

Table 4: Contrasting approaches for conceptualising and implementing early intervention

| ← Contrasting paradigms → | |
|---|--|
| <p>Promotion models</p> <p>Focus on enhancement and optimisation of competence and positive functioning</p> | <p>Treatment models</p> <p>Focus on remediation of a disorder, problem, or disease, or its consequences.</p> |
| <p>Empowerment models</p> <p>Create opportunities for people to exercise existing capabilities as well as develop new competencies.</p> | <p>Expertise models</p> <p>Depend on professional expertise to solve problems for people.</p> |
| <p>Strengths-based models</p> <p>Recognise the assets and talents of people, and help people use these competencies to strengthen functioning.</p> | <p>Deficit-based models</p> <p>Focus on correcting peoples weaknesses or problems.</p> |
| <p>Resource-based models</p> <p>Define practices in terms of a broad range of community opportunities and experiences.</p> | <p>Service-based models</p> <p>Define practices primarily in terms of professional services.</p> |
| <p>Family-centred models</p> <p>View professionals as agents of families and responsive to family desires and concerns.</p> | <p>Professionally-centred models</p> <p>View professionals as experts who determine the needs of people from their own as opposed to other people's perspectives.</p> |

Source: Dunst and Trivette (1997:169).

environmental risk factors. The second, the *eradication* model, directly considers the reduction or elimination of environmental risk factors as a primary focus of intervention practices. The third, the *ecological* model, considers both the reduction elimination of environmental risk factors and the use of child/family focused interventions as conditions contributing to positive outcomes.

Practice models for early intervention in mental disorders are in their infancy. Findings from the two reports of the *National Stocktake of Early Intervention Programs* (Davis et al 1998, 1999) and the development of clinical approaches to early intervention in a number of mental disorders and with a range of target populations⁵⁶ may provide a starting point for practice based research designed to develop models of early intervention in mental disorders. An overview of some of the findings from the *National Stocktake of Early Intervention Programs* follows.

Early intervention in mental disorders in Australia

As part of the AusEinet project, national stocktakes of early intervention and prevention programs were conducted in 1998 and 1999 (See Davis et al 1998; 1999). The goals were as follows:

- to gain an appreciation of Australian early intervention programs for mental disorders in children and young people, operating or planned;
- to inform both research and this literature review;
- to inform members of the AusEinet network;
- to identify good practice;
- to assist those wanting to develop early intervention programs;
- to identify barriers and constraints for the development, implementation, evaluation and sustainability of programs;
- to provide information about evaluation, and the use of an evidence based approach.

Three hundred and one programs were identified by means of the two stocktake reports⁵⁷. Given the definitional confusion surrounding the concept of 'early intervention', AusEinet adopted as broad an approach as possible to programs, allowing them to self identify and to decide whether or not they wished to be included in the stocktake.

56. These have been commissioned as part of the Commonwealth funded AusEinet project.

57. A small number of these were listed in both reports because of significant changes occurring in the nature of the respective program between publication of the first and second reports.

Programs were identified in all States and Territories, with the majority being in New South Wales and Victoria. They spanned the ages of 0-25 years with the majority of programs identified (approximately 42 percent), targeting adolescents and young people. Approximately 25 percent of programs targeted children between the ages of 0-5 years.

Problems/issues identified by programs

A range of problems/issues were targeted by the early intervention programs, with the majority of programs stating that they were addressing risk and/or protective factors. These factors varied according to the age group targeted by the program. For children aged 0-5 years, risk factors commonly being addressed by the respective early intervention programs included:

- depression or other mental illnesses which have an impact on parenting skills;
- attachment problems;
- postnatal depression;
- child abuse;
- parental mental illness;
- children with an anxious temperament;
- parental anxiety and over protection;
- lack of parenting knowledge;
- disruptive social factors in infants' families.

Protective factors addressed included:

- the enhancement of parenting satisfaction and maternal coping skills;
- the enhancement of attachment;
- the strengthening of families and building of social support networks;
- family resilience and ability to change.

For adolescents and young people, a range of risk and protective factors were addressed by the various early intervention programs. Risk factors included:

- physical or sexual abuse;
- school failure;
- parental mental illness;
- parental hostility and criticism;
- non compliance with medication;
- prodromal symptoms of psychosis;
- pessimistic attribution patterns;
- homelessness;

- alcohol and drug use;
- attempted suicide;
- family violence;
- unemployment;
- stressful life events.

Protective factors addressed included:

- the promotion of attachment and 'belonging' for young people;
- supportive networks;
- good relationship with one or both parents;
- promotion of social skills;
- enhancement of coping skills;
- resilience.

Theoretical and practice models

A large number of the early intervention programs described in the two reports of the national stocktake identified the theoretical and practice model(s) used in their respective programs. These varied according to the risk and/or protective factors being addressed. For instance, theoretical and/or practice models identified by some of the programs offering early intervention services to children included Seligman's theory of learned optimism, the work of Kazdin, and theoretical studies of resilience. Numerous strategies were employed by the many early intervention programs⁵⁸. Characteristics of programs, including the duration, number of sessions and staffing, varied.

Evaluation of effectiveness of programs

It was difficult to make judgments about the effectiveness of the various programs described in the stocktake reports. Unfortunately, as many of the programs had only limited evaluation, the responses did not allow us to use an evidence based approach in examining the effectiveness of each illustrative program⁵⁹. However, evaluation strategies employed by the programs were identified and briefly described. Of concern was the inability of some programs to identify any evaluation strategies employed as a means of determining effectiveness. In part, this appeared

58. See Davis et al (1998, 1999) for a detailed description of these.

59. This was due to a number of reasons. First, programs completing the stocktake questionnaire had not been advised of this and this raised ethical concerns. Second, preliminary analysis of the material being collated along with concurrent work on the AusEinet literature review of early intervention highlighted the fact that research is not sufficiently advanced to enable any form of 'benchmarking'. Third, it became evident that many programs had limited funding and resources and were unable to undertake major evaluation of their program's effectiveness.

to be related to several of the often reported barriers and constraints: lack of time, lack of staff and lack of money.

Another major constraint related to the funding cycle for programs. Many programs were pilot programs or received funding for only one or two years. This leads to an ever changing picture of national activity and provides major difficulties in gaining a comprehensive overview of early intervention programs operating in Australia at any given time. In addition, it has implications for the development of comprehensive evaluation strategies to measure the effectiveness of programs. Most significantly, it reduces the development of a body of evidence for the effectiveness of early intervention and for best practice principles and guidelines to be generated. Clearly, sustainability and therefore quality of evaluation of Australian early intervention programs are significant issues.

Despite these constraints, the stocktake of early intervention programs provided a wealth of information related to risk and protective factors for a range of mental health problems and disorders, theoretical and practice models as well as strategies which might be used for prevention and early intervention programs, other elements of program design and possible evaluative strategies. It demonstrated that early intervention in mental disorders of children and young people in Australia is very much 'on the agenda', even if at an early phase of development. The stocktakes highlighted the need for a close look at issues of evaluation and research in early intervention.

Chapter 6

Research on early intervention

Before critically analysing existing international research on early intervention, particularly as it applies to mental disorders in children and young people, it is important to acknowledge some of the methodological issues in research on prevention and early intervention⁶⁰. Methodological issues exist both in terms of designing and implementing preventive-oriented interventions⁶¹ and in critically analysing the effectiveness of preventive interventions including early intervention endeavours⁶².

Designing and implementing early intervention programs

Fergusson (1999) has highlighted three major issues in the design and implementation of early intervention programs:

- the need for programs to be built on a well articulated and evidence based theory of risk, resilience and outcome;
- the need for program procedures and methods to be stated as explicitly as possible so programs can be repeated by others; and
- the need for program outcomes to be monitored and evaluated.

Unfortunately, however, reviews of the literature on early intervention studies (cf Bricker, Bailey and Bruder 1984; Bryant and Ramey 1987; Dunst 1986; Shonkoff and Hauser-Cram 1987; Farran 1990; Guralnick 1991) in addition to the two reports of the *National Stocktake of Early Intervention Programs* (Davis et al 1998; 1999) indicate that there is a paucity of information on the theoretical perspectives which underlie programs, as well as program procedures and methods and evaluation data.

Another issue, which arises in the literature on early intervention programs, relates to the lack of specificity and precision of goals. Goals may be either proximal or distal.

60. In this section, methodological issues raised in the overall early intervention literature will be discussed. This literature primarily focuses on early intervention with disadvantaged children, handicapped children and developmentally disabled children.

61. A good overview of these is provided by Jason, Thomson and Rose (1986).

62. O'Toole (1995:51-70) provides a detailed discussion of the methodological and statistical issues involved in evaluating risk, preventive intervention and outcome.

Proximal goals involve developing effective interventions for separate risk factors. After achieving success with several proximal goals, a comprehensive program could be developed to impact on a distal goal, which would reduce an adverse end state. While the stated goal of many prevention programs is to prevent the manifestation of a particular disorder, this is a distal goal and the outcome may be impossible to evaluate in terms of the stated goal. A more realistic goal might focus on the modification of early signs of experience or insulating the individual from long term negative consequences (that is, the degree to which risk factors for the targeted disorder are ameliorated). Further, adopting an all-or-none criterion of 'success' may also be problematic. Poser (1983 cited in Felner et al 1995) cogently argues that instead, the 'effect size' should be considered, that is, the extent of improvement or the degree to which the risk factors or early signs of disturbance have been modified.

Additional issues identified in the literature relate to the timing of early intervention, given that many youngsters fluctuate between being classified as healthy or disturbed during the adolescent period⁶³, and to the selection of participants for early intervention programs. It cannot be assumed that preventive projects will have beneficial effects for all participants. Some studies indicate that individuals with different levels of experience or different coping styles react differentially to early intervention programs⁶⁴. Thus, individual characteristics, including response factors, need to be examined and considered when planning interventions.

Other challenges include the relatively low base rates for many disorders (which necessitate that large samples be studied) and the episodic manifestations of many conditions (requiring extended and thorough follow-up) (Heller, Price and Sher 1980). Given that it is not known exactly how or when currently healthy children and adolescents eventually develop specific psychological problems, it makes it extremely difficult to plan interventions to prevent specific dysfunctions (Durlak and Wells 1997:116).

63. This is illustrated by Kohn's (1977) study which found that 12% of disturbed children in kindergarten had outgrown their problems without intervention by the fourth grade; whereas 16% of healthy kindergarten children had become symptomatic by the fourth grade. Further, evidence by Wenar (1984) suggests that the majority of neurotic children, those who are shy or withdrawn, generally grow up to be adequately functioning adults regardless of whether or not they receive help. Poser (1983, cited in Felner et al 1995), reports that other young people may have a sudden onset of severe disorders (for example, childhood schizophrenia) that have not been receptive to preventive efforts while others may develop progressively worse delinquent or aggressive behaviours, which do not tend to remit over time.

64. For example, Poser (1983 cited in Felner et al 1995) reviewed several preventive studies dealing with individuals who had experienced the sudden death of a family member. An intervention delivered within hours after the death actually may have interfered with the natural, adaptive bereavement process, whereas widows involved within 7 weeks of their husband's death showed a significant lowering of morbidity. These studies suggest that high risk individuals might first need to be allowed to use their personal coping styles during a post-traumatic time period before preventive interventions are offered.

A final point to consider is that of the importance of ensuring that treatment integrity is monitored. The integrity of an intervention is dependent on carefully specifying all aspects of the implemented project. Mrazek and Haggerty (1994:218) provide a useful schema for this (see Appendix B).

Methodological issues in evaluating outcomes of early intervention programs

Although preventive intervention research (and mental health outcomes studies in general) has become more methodologically sophisticated over time, it continues to be plagued with common flaws that may compromise findings. While some flaws may be due to unanticipated changes in research design and procedures resulting from obstacles encountered during program or study implementation, Chorpita, Barlow, Albano and Daleiden (1998) note the failure of many studies to report basic data. Such omissions include poorly defined patient groups, the presence or absence of co-morbidity, poorly defined interventions, and lack of explanation of their presumed mechanisms of action. In summary, common methodological problems include:

- variations in definitions of prevention/early intervention used by professionals and researchers (including an absence of information in some studies⁶⁵);
- variations in the conceptualisation of cases;
- sources and sizes of study population. Problems of insufficient statistical power plague research on early intervention. Sample sizes are generally small, making it unlikely that moderate effects of an intervention will be demonstrated. While samples of at least 70 subjects per group are needed to detect differences of one half of a standard deviation 90% of the time, few studies on early intervention have samples of that size⁶⁶;
- source of comparison groups;
- subject recruitment and subject retention in longitudinal research;
- variations in the range, relevance, reliability of outcome measures used;
- variations in the research designs used;
- methodological weaknesses within studies⁶⁷.

65. At present there is a lack of consensus about 'early intervention' and 'prevention'.

66. A meta analysis of early intervention studies undertaken by Shonkoff and Hauser-Cram (1987) indicated that 82% had samples of 40 or fewer subjects.

67. That is, hypotheses must be clearly stated, methodology described in enough detail to enable replication, characteristics of the sample described (age, sex, educational status, how recruited), appropriate statistics should be used. Independent variables need to be operationally defined and assessment measures should be standardised. Tests should have content validity. Sample sizes should be large enough to detect change. There is a need to pay particular attention to the unit of analysis (for example, is it the individual or the classroom in terms of interventions which are randomly assigned to classrooms?)

Perhaps the most critical issue in prevention/early intervention research is to demonstrate effectiveness. The obstacles to achieving this inherent in the nature of prevention are major. Several writers (Eisenberg 1981; Bloom 1979) note the lack of well documented research⁶⁸ and the array of vague and ill defined programs. Further, Eisenberg (1981) notes the tendency of prevention programs to be unrealistic and too generalised in their aims.

A number of challenges are faced in evaluating a particular intervention or program's effectiveness, challenges which are particularly pronounced in the area of community based health and social interventions. As the two reports of the *National Stocktake of Early Intervention Programs* (Davis et al 1998, 1999) indicated, the majority of Australian prevention and early intervention programs have ill-defined evaluation mandates. Funding may not continue long enough to permit staff and evaluators to digest and document the program's development, implementation and outcome lessons.

Other major constraints in evaluating prevention and intervention programs have been identified in the literature. Firstly, many programs are not formally required to evaluate their impact; secondly, many mental health problems have a low base rate. An evaluation of the change in the rate of occurrence requires a large study sample and costly data collection; such studies are difficult to undertake. A third factor to consider is that we do not know the efficacy of tackling portions of the problem of child and adolescent mental health problems apart from broader societal needs. For example, a number of writers (cf Albee 1979; 1982; Ammerman and Hersen 1997; Bradley and Whiteside-Mansell 1997) suggest that prevention will only come in tandem with efforts to reduce poverty. Community based programs may serve populations with a variety of urgent unmet social and health needs; withholding these or apparently helpful treatments, may be unethical. Despite these constraints, evaluation of prevention programs can be improved by coming to terms with definitions of key variables, developing valid measures of these variables and expanding study concerns to include appraisals of impact on health and costs.

How then, can effectiveness be assessed?

Two types of research are required to determine the utility of treatments or interventions, efficacy and effectiveness studies (Ruggeri and Tansella 1995).

68. In a review of community based journals, Monahan (1980 cited in Eisenberg 1981), reviewing research articles over a 6 year period, found that 61% of articles did not specify an hypothesis, only 10.7% used randomised control group design. A review by Lounsbury et al (1980 cited in Eisenberg 1981), found that only 1% included post measures plus a follow-up assessment.

'Efficacy' studies are undertaken under experimental or 'controlled' conditions to develop and refine strategies for early detection and treatment and are seen as providing a high degree of 'evidence' (See Appendix C for information on assessing 'evidence'). The rationale for the use of efficacy studies in early intervention is that a variety of treatments including drug treatments, psychological treatments and psychosocial interventions, need evaluation for their appropriateness for specific phases of mental disorder and the different developmental stages of the individuals involved (See Nathan and Gorman 1998; McGorry 1999).

Within the field of early intervention of mental disorders, it is particularly important to determine the safety and efficiency of interventions that are targeted as early interventions, because these interventions may often be applied during benign states when a person is not actually going to develop a disorder. This is particularly important given that the effectiveness of psychological treatment is a growing major concern, especially with respect to children's mental disorders (Kazdin 1993). Kazdin, Bass, Ayers and Rodgers (1990:738) observe that *the vast majority of available treatments for children and adolescents have not been validated empirically*. Thus, in the evaluation of interventions, not only must their possible beneficial effects be examined, but their potential harmful outcomes must also be explicitly ascertained.

Efficacy studies provide limited information not necessarily related to all the outcomes of interest (Aveline 1997). Similarly, Jensen, Hibbs and Pilkonis (1996:709) suggest that too much emphasis has been placed on the traditional, short term efficacy studies that principally assess symptoms and disorders. In contrast, too few studies have been conducted examining the long term outcomes of treatments, surveying the broad course of potential outcomes: clinical, functional, environmental, consumer-oriented and systemic (ibid, page 709). Indeed, a common and persistent source of criticism in the literature relates to concern about the usefulness of evidenced based approaches (as indicated in Appendix C)⁶⁹ (measures of effectiveness based on efficacy designs alone) to intervention/treatment in the real world (Weisz and Weiss 1989; Raw 1993). As Ammerman and Hersen (1997:5) observe: "It is a common complaint among clinicians...that the 'experimental' research literature has limited generalisability to actual clinic cases because of features inherent in laboratory studies that purportedly limit external validity."

69. Strupp (1986) observes that practitioners often find such research of little use to them.

A meta-analysis conducted by Weisz, Weiss, Alicke and Klotz (1987) revealed that research treatment differed from clinic treatment in that clinic samples were more pathologically disturbed and research settings had superior resources. Similarly, Kazdin et al (1990:739) found that most published research of effectiveness of treatment was rarely undertaken in real world settings like child guidance clinics, comprehensive mental health services, family service agencies or private practice. In general, little attention is given to factors that may influence treatment outcome, for example, characteristics of the child, family and therapist as well as the circumstances under which the treatment is administered⁷⁰. This has led to Seligman's (1998:570) conclusion that "the laboratory nature of the efficacy design omits so many crucial elements of real therapy, and introduces others so alien to real therapy, that it masks, minimises and distorts the beneficial results that actual therapy produces". As Jensen et al (1996:701) observe, there is a need to move from the ivory tower to clinical practice. Effective long term studies need to be conducted which incorporate issues of feasibility, palatability (to parents and children), sensibility and real world flexibility into their research design (ibid). They further assert that failure to deliver these abilities in future outcome studies will result in researchers' defaulting on yet three more abilities: reliability, generalisability and transportability (Jensen et al 1996:709).

A wide range of research evidence is therefore needed⁷¹. In contrast to studies of efficacy, 'effectiveness' studies test the 'real world' impact of treatments that have been shown to be efficacious. They are imperative to determine the generalisability of controlled studies into the real world because interventions conducted under highly controlled conditions may not translate well into the uncontrolled environment that is the real world. 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 (multicomponent) interventions and in distinguishing between specific and nonspecific and effective and ineffective treatment elements. McGorry et al (1996) have argued that naturalistic effectiveness studies ideally are comprehensive and measure effectiveness along several dimensions, including psychopathology, social functioning and quality of life.

70. Perhaps the most frequently encountered impediments to treatment involve some aspect of the broader context interfering with achieving the goals of treatment, such as the physical and social setting in which the child lives as well as the resources, values, beliefs and goals of the child, family, school and community.

71. Hauser-Cram (1990) has noted the importance of designing meaningful evaluations of early intervention services. He comments that the key component of these evaluations includes assessing how change has occurred as a result of a program or specific intervention. Key elements include conceptualising the questions, clearly identifying the program, its elements, the underlying theoretical basis, the program's goal(s), and the actual content of services/interventions. See also Jensen et al (1996) and Hibbs (1998).

Effectiveness studies also need to give consideration to the concept of 'successful outcomes'. Frequently, early intervention studies are attempting to measure change in areas where no standardised measures exist – this is problematic. Moreover, in operationalising 'success', consideration has to be given to whether gains are short term, immediate or long term. What is the stability of the gains? Are there 'sleeping' effects from the intervention? That is, are there latent effects that emerge after an early intervention program has been completed?

Many reports have drawn attention to the importance of incorporating consumer perspectives into comprehensive service evaluations (Jensen, Hoagwood and Petti 1996; Osher 1998). This, however, is a relatively neglected area in practice. One interesting study⁷² that drew attention to the need for multiple measures from multiple perspectives compared consumer satisfaction with outcome of psychopathology by different raters. It showed few associations. Gowers and Bailey (1999:443) argue that clinician-rated outcome measures need to be balanced by the perspective of children (and young people) and their families.

Other key issues for determining the effectiveness of an early intervention action plan are its sustainability and integration. It is inappropriate to initiate a one-off early intervention program that benefits one small cohort. It is similarly inappropriate to identify a group of people with previously unmet need and pass them on to services who have not been integrated into the process and who may not be able to cope with the demand.

Methods for evaluating early intervention programs

Research methods to evaluate effectiveness commonly fall into several main levels⁷³. The gold standard is internationally accepted as the randomised controlled trial. This is often seen as the 'ideal' means of assessing the effectiveness of a treatment or intervention in that it offers random allocation to one of two groups, only one of which receives the intervention. With large enough samples, this procedure allows for the control of two sources of bias: selection bias (researchers may choose those subjects they think are likely to respond well) and other external sources of bias (such as age or class). When these factors are randomly exerting an influence in both groups, statistical differences in the experimental group can be more confidently attributed to the intervention.

72. Lambert, Salzer and Bickman (1998)

73. Ovretveit (1998) provides an excellent review of these methods.

Randomised controlled trials do not remove all of the problems inherent in assessing or evaluating effectiveness. Often, researchers are unclear as to what the intervention actually is. Measures used must relate to the problem or intervention in a meaningful way and the changes reported must not be due to bias in those gathering the information.

There are other problems to address regardless of the research design. Of particular concern is the ethics of randomisation, particularly randomisation to 'no treatment', where there may be prior evidence that a treatment may work. Another issue regarding the use of a control group relates to the state of knowledge of early interventions in that as researchers or program designers or implementers, we frequently do not know yet what works, or what works best.

A second level of assessing effectiveness is through studies with quasi-experimental designs. These are research designs in which one or more control groups may be used but to which subjects are not randomly allocated. Some clients receive a service whilst others do not receive a service. Researchers accept clients 'naturally' and establish a control group matched in characteristics thought to be important, for example, socio-economic status, severity or duration of problem etc. Researchers may also utilise non-experimental designs in order to evaluate interventions. Studies using this approach do not involve random allocation of clients nor pre-intervention matching of groups, if a comparison group is used at all. Taken singly, results based on studies using these designs are at best suggestive. It has been argued, however, that attributive confidence can be enhanced. For example, if a number of such studies featuring a range of clients in different circumstances produce similar results, then one can feel more confident that the intervention is influencing the change. Such a pattern would indicate that it might be worth investing the time and resources involved in experimental and quasi-experimental research to place these results beyond further doubt.

Longitudinal studies may also have both possibilities and limitations⁷⁴. The majority of published work is restricted to either pure cross-sectional analyses or to studies of processes of change that are of such short duration that they may not provide acceptable conclusions related to prevention in the long term.

Client opinion studies may offer valuable insights into how clients understand what service providers are trying to achieve; what it feels like to be on the receiving end

74. Prospective longitudinal studies run for many years or even decades before they deliver results and then it is questionable whether the findings in any way still apply to the present situation.

of someone else's professional good intent; what side effects are produced; and why and how clients attribute patterns of change, nil-effect, or deterioration to the actions of staff (see e.g. Fisher 1983; Rees and Wallace 1982; Cheetham, Fuller, McIver and Petch 1992). Again, the reports of the *National Stocktake of Early Intervention Programs* (Davis et al 1998, 1999) indicated that this was a commonly used method for evaluating the effectiveness of early intervention programs in Australia. For the purposes of a quality audit, this approach to evaluation may be an important source of data. However, researchers have found that the correlation between satisfaction (or dissatisfaction) and the achievement of pre-intervention goals is loose (see Austin 1982). The message is clear from the literature that clients usually like caring professionals, appreciate their endeavours, value their support, like the way they are treated by them (with some notable exceptions) but rarely understand what they are endeavouring to achieve and how they expect to do this. In spite of these reservations, data from client opinion studies can be useful in understanding elements of the particular intervention process.

A survey may enable evaluation of effective service provision. Large scale surveys provide useful information about the prevalence in society of certain characteristics. It is difficult for service managers and service providers to plan without good data on the scale of a particular problem. A particular type of survey that is useful in exploring the kinds of interventions most likely to benefit children are cohort studies. These enable us to identify factors, which seem to have a predictive effect.

Alternative methods of evaluation

Meta-analysis has a great deal of potential⁷⁵. A vast number of empirical research findings may be available but not utilised. Different research designs, different treatments in the various practical programs, different theoretical and even philosophical positions among researchers and/or workers, different implementation timepoints and settings, are all elements that can be responsible for differences in the findings. A meta analysis may work out systematically the hard core of findings which have sufficient similarity to provide confidence in apparent effectiveness. It has the advantages of being able to sift through the plethora of findings comparatively quickly, it does not expose the clients of strategies of intervention and prevention to further unnecessary risks and, additionally, it systematically reveals methodological errors and theoretical gaps.

75. This is a method whereby findings are integrated across a series of independent studies, and outcomes are quantified by using Effect Size (ES). This is computed by calculating the difference between the means of the experimental and control groups and then dividing by the standard deviation of the control group. It is possible to calculate ES for all major dependent variables in a study.

Given the complexities involved in evaluating programs, particularly those that are community based health and social programs, it is not surprising that there is as yet a dearth of 'good' evaluation research on early intervention program when the field is as yet so young. The available evidence and promising leads will be explored in the next section.

Chapter 7

Overview of evidence of effectiveness of early intervention

Research in preventive mental health interventions

Much of the research effort in early intervention has been undertaken with populations of disadvantaged and disabled children where the premise has been that early intervention can yield significant improvements in cognitive, academic, and social outcomes⁷⁶. Yet, as Farran (1990:501) observes, there are very few studies of intervention efforts with either disabled or disadvantaged children that are scientifically valid enough to summarise (Bryant and Ramey 1987; Shonkoff and Hauser-Cram 1987). Indeed, the evidence of numerous methodological problems⁷⁷ has posed significant challenges to the establishment of unequivocal statements concerning the efficacy of early intervention (Bricker et al 1984; Dunst 1986; Guralnick 1988; 1991).

Farran (1990:512) cautions that while it is currently popular to argue that studies provide strong evidence for the value of early intervention for children who are disadvantaged by poverty and/or social disorganization, in truth there is little support for statements that are either so absolute, so long term or so inclusive regarding the effects of early intervention. Available data suggest a range of potential benefits from carefully planned and well implemented early intervention efforts. Such services, however, must be continued if short term gains are to be sustained⁷⁸. With regard to early intervention services for children with a disability, Farran (1990:533) argues that the provision of support should not be open to debate.

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76. See Ramey and Ramey (1998) for a detailed historical overview, rationale and conceptual framework for early intervention.
77. Relatively few of the very many studies/projects that have been conducted since the mid 1960s have met the basic criteria required to be true experiments. Problems in research design include the failure to ensure adequately the initial equivalence of educationally treated and untreated (control) groups.
78. This conclusion was supported by a further review of studies by Bryant and Maxwell (1997). Most studies reviewed show that some short term and long term effects of early intervention with poor children are possible but as Zigler and Berman (1983:904) caution, a one or two year program is not an "inoculation against failure". It is unrealistic to expect a short-term intervention to permanently change children's behaviour or cognition. Unless supplemented by many other interventions at many social levels, Gallagher (1991) considered these types of programs to be 'weak treatments'.

Rather, there is a need for further, systematic explorations to determine how best to deliver specific interventions and which disabling conditions are most responsive to what kinds of programs.

Notwithstanding these cautionary comments, Guralnick (1997:590) in a recent review of the evidence for early intervention, provides some support for the generally held opinion that early intervention programs are effective: average effect sizes produced from meta-analytical studies⁷⁹ fall within the range of one half to three quarters of a standard deviation. He does, however, argue for 'second-generation' research to move beyond questions of general efficacy of early intervention to address issues that can guide specific program directions. Specifically, such research needs to address the 'what', 'when', 'why' and 'how' questions of intervention. That is:

- what are the characteristics of the child who is likely to benefit from a specific early intervention program? (and of course, the counter question);
- what are the particular program characteristics most likely to lead to positive outcomes?
- when should a particular early intervention program be used? (that is, the appropriate timing);
- why does a particular program or strategy work, i.e. what are its key components?;
- how does this relate to a particular theoretical framework?

The data upon which any firm conclusions may be based may be weak as most published studies are flawed methodologically. However, such studies are all researchers and practitioners have to work with at present. They may not provide a rigorous foundation for a solid knowledge base but they do warrant close scrutiny.

The explosion of interest and research in preventive mental health programs over the past 25 years has resulted in a small but growing literature evaluating the impact and effectiveness of different programs. Between 1960 and 1991, over 2,300 publications had appeared on prevention in general (Buckner, Trickett and Corse 1985; Trickett, Dahiyal and Selby 1994). By the end of 1996, as Durlak (1997) observes, approximately 1200 preventive outcome studies had appeared targeting children and adolescents. As with the literature evaluating early intervention programs with socially disadvantaged children and children with a disability, methodological

79. See Casto and Mastropieri 1986; Bryant and Ramey (1987); Shonkoff and Hauser-Cram 1987; and Guralnick's (1997) edited book which contains information on the effectiveness of early intervention with a range of populations including children with autism, children with developmental disabilities, abused children, socially disadvantaged children, children exposed to substance abuse, and children with conduct disorders.

problems limit the conclusions that can be drawn. Despite these constraints, recent meta-analyses on the effects of primary prevention mental health programs for children and adolescents and on the effects of indicated preventive mental health programs (secondary prevention) on children and adolescents have offered what Cowen (1997:153) refers to as a 'coming of age' in prevention of mental disorders.

Evaluation of primary preventive mental health programs for children and adolescents

A meta-analysis by Durlak and Wells (1997) reviewed 177 primary prevention programs designed to prevent behavioural and social support problems in children and adolescents. The definition of primary prevention⁸⁰ utilised by the researchers incorporated what the Institute of Medicine (Mrazek and Haggerty 1994) has referred to as mental health promotion and selective intervention. Programs reviewed utilised both universal and 'high risk' selection strategies for their participants.

The intent of the review was to examine the impact of primary prevention in an effort to identify variables which moderate program success and to examine the outcomes achieved by preventive interventions. Specifically, programs were examined in terms of their success in reducing problems and increasing competencies⁸¹. Studies eligible for review consisted of primary prevention outcome studies targeted at youth aged 18 years or under. Each study had to meet a number of criteria⁸² and was coded on 51 variables falling into seven major categories⁸³. Effect sizes (ESs) were computed using the pooled standard deviation of the intervention and control groups⁸⁴.

Results

Descriptive information on the studies reviewed

The mean age of participants was 9.3 years with 13% of the studies involving adolescents aged 13 years or older. There was wide variability in sample sizes with

80. Primary prevention was defined as an intervention designed specifically to reduce the further incidence of adjustment problems in currently normal populations, including efforts directed at the promotion of mental health (Durlak and Wells 1997:120).

81. This included programs that target protective factors.

82. (1) Adhere to the stated definition of primary prevention; (2) involve a control condition of some sort (no treatment, waiting list, or attention placebo controls); (3) to be reported by the end of 1991; (4) be a program with a central mental health thrust, that is, directed primarily at children's and adolescents' behavioural and social functioning.

83. These included: basic identifying data; methodological features (for example, assignment to conditions, types of controls, sample size); how effect sizes were calculated; characteristics of the subjects (age, gender, ethnicity); change agents (education and training); interventions (theoretical orientation, program goals, components of intervention, modality, duration, fidelity of implementation); and outcome measures (psychometric properties, dimension of adjustment assessed).

84. See Durlak and Wells (1997:121) for further details of the meta-analytic methods employed.

34% of the studies involving samples of 50 or less while 29% involved samples of 100 or more. The average follow-up period was 47 weeks but there was considerable variability: the follow-up period was 10 weeks or less in 25 of the 45 follow-up studies. Additional descriptive characteristics of the reviewed studies appear in Table 5 (Durlak and Wells 1997). Programs were divided into five groupings to achieve homogeneity: environment centred (that is, school based or parent training); transition programs (divorce, school entry/change, first time mothers, medical/dental procedures); person centred programs (affective education⁸⁵); interpersonal problem solving⁸⁶; and other person centred programs (behavioural approach, non behavioural approach).

Effect sizes and outcomes

Most types of primary prevention programs reviewed achieved significant positive effects (mean effect sizes ranged from 0.24 to 0.93). Further, most interventions significantly reduced problems and significantly increased competencies, and affected functioning in multiple adjustment domains: outcomes reflected both a decrease in sub-clinical levels of internalizing and externalising problems and improved academic performance (Durlak and Wells 1997:137)⁸⁷. As Table 6 indicates, across different types of interventions, the outcomes for the average participants in a primary prevention program are statistically better than in the control group.

Durlak and Wells (1997:139-140) noted both positive and negative features in the characteristics of the programs they reviewed. The majority of the programs were true randomised experiments, had little sample attrition and used multiple outcome measures. However, sample sizes of the studies tended to be small⁸⁸ and more studies needed to collect follow-up information over longer periods. The lack of relevant data on program implementation was also noted as was the lack of data on children's social cognitive skills. It was further suggested that research could be improved by establishing specific program goals, clearly operationalising intervention procedures, and by using theory to guide the interventions.

85. This was subdivided into programs for children aged 2-7 years, 7-11 years and children over 11 years, respectively.

86. This was subdivided into programs for children aged 2-7 years, 7-11 years and children over 11 years, respectively.

87. Durlak and Wells (1997:137) observe that these outcomes are impressive since participants in primary prevention programs are functioning in the normal range to begin with and thus should not have been expected to change dramatically.

88. Mrazek and Hall (1997:222) highlight this issue, noting that 71% of the studies involved samples of less than 100 subjects and about one half of these involved samples of 50 or less.

Table 5: Descriptive characteristics of reviewed studies (N=177)

| Variable | n | % |
|---|-----|------|
| Primary setting for intervention | | |
| School | 129 | 72.9 |
| General hospital or dental clinic | 26 | 14.9 |
| Combination or other | 14 | 7.8 |
| Home | 4 | 2.2 |
| Not reported | 4 | 2.2 |
| Race of participants | | |
| Majority white | 45 | 25.4 |
| Majority not white | 31 | 17.5 |
| Mixed | 16 | 9.0 |
| Not reported | 85 | 48.0 |
| Description of intervention procedures | | |
| Very broad, few details | 94 | 53.2 |
| Major procedures specified | 31 | 17.5 |
| Program manual available | 52 | 29.3 |
| Specification on intervention goals | | |
| Very broad or general | 113 | 64.0 |
| Specific goals articulated | 64 | 36.0 |
| Change agents | | |
| Mental health professionals | 53 | 29.9 |
| Graduate students | 23 | 13.0 |
| Teachers or parents | 37 | 20.9 |
| Undergraduate students | 16 | 9.0 |
| Combination of above | 34 | 19.2 |
| Not reported | 14 | 7.9 |
| Methodological features | | |
| Randomised designs | 108 | 61.0 |
| Attention placebo controls | 40 | 22.6 |
| Attrition less than 10% | 141 | 80.0 |
| Follow-up data collected | 45 | 25.4 |
| Multiple outcome measures used | 159 | 89.9 |
| Normed outcome measures used | 60 | 33.9 |

(Source: Durlak and Wells 1997, Table I)

Table 6: Binomial effect size display of success rates for different prevention programs

| Type of program | Success rates ** | |
|---------------------------------------|------------------|----------|
| | Intervention | Controls |
| Environment centered | | |
| School based | 58.5 | 41.5 |
| Parent training | 54 | 46 |
| Transition programs | | |
| Divorce | 59 | 41 |
| School entry/change | 60 | 40 |
| First time mothers | 72 | 28 |
| Medical/dental procedures | 61.5 | 38.5 |
| Person-centered programs | | |
| Affective education | | |
| Children 2-7 | 67.5 | 32.5 |
| Children 7-11 | 56 | 44 |
| Children over 11 | 58.5 | 41.5 |
| Interpersonal problem solving | | |
| Children 2-7 | 73 | 27 |
| Children 7-11 | 59 | 41 |
| Children over 11 | | |
| Other person centered programs | | |
| Behavioural | 62.5 | 37.5 |
| Non-behavioural | 56.5 | 43.5 |

**NB Success rates are in percentages. If the intervention had no effect, rates would be 50% for both groups.

(Source: Durlak and Wells 1997, Table VI)

Evaluation of indicated preventive intervention mental health programs for children and adolescents

In a later study, Durlak and Wells (1998) evaluated the outcomes of 130 indicated preventive intervention mental health programs for children and adolescents that sought to identify early signs of maladjustment and to intervene before full blown disorders develop. These programs varied in terms of how target groups were selected for intervention, how services were delivered, which types of treatment were conducted and in their intervention goals. For example, in contrast to the Primary Mental Health Project (PMHP) (Cowen, Hightower, Pedro-Carroll et al 1996)

which dealt with multiple forms of school madadjustment, other indicated preventive efforts (that is, secondary prevention) were directed specifically at depression (e.g. Reynolds and Coats 1986), aggression (e.g. Lochman, Burch, Curry and Lampron 1984), or social isolation (e.g. Gresham and Nagel 1980).

Studies eligible for review consisted primarily of reports between 1960 (when controlled studies on prevention began appearing with some regularity)⁸⁹ and the end of 1991, in which a secondary prevention⁹⁰ mental health intervention was compared with a control group. To be included in the meta-analysis, studies had to meet certain criteria⁹¹. In addition, the researchers excluded all interventions targeting drug taking, efforts whose primary focus was academic remediation and programs to prevent juvenile delinquency as reviews of research⁹² were available in these areas. Effect sizes (ESs) were computed by subtracting the post treatment means of the control group from the intervention group and then dividing by the pooled standard deviation⁹³.

Each study included in the review was coded on multiple variables divided into six categories which included basic identifying data, design features, target populations, therapists, treatments and outcome measures. In addition, both the type⁹⁴ and seriousness⁹⁵ of presenting problems were coded. Given that several treatments were described vaguely and the numbers of other specific treatments were small, treatments were combined into three broad categories: behavioural, cognitive-behavioural and non behavioural forms of treatment.

Results

Descriptive information on studies reviewed

Most of the interventions were school based (93.4%) and the typical participant was in elementary school. Twenty-nine percent involved adolescents. Sample sizes

89. See Durlak (1997).

90. Secondary prevention was defined as intervention for children with sub clinical problems which were discovered through a population wide screening approach.

91. (1) adhere to the definition of intervention previously described; (2) involve children or adolescents with a mean age less than 19; (3) involve a control group drawn from the same population as the treated group; (4) be directed primarily at children's or adolescents' behavioural and social functioning.

92. See Bruvold (1993); Lipsey (1992); Slavin, Karweit and Madden (1989); Tobler (1992).

93. Positive ESs indicate that the treatment group was superior to the control group, and negative scores indicate the opposite outcome. When means and standard deviations were not reported other meta-analytic procedures (Wolfe 1986 cited in Durlak and Wells 1998:778) were used.

94. Children's problems fell into five major categories: internalizing problems; externalizing problems; mixed adjustment problems; poor peer relations; and low levels of academic performance. Externalising symptoms included aggression, noncompliance, and various disruptive behaviours. The term 'mixed symptomatology' was used to refer to children who displayed a combination of both internalizing and externalizing disorders.

95. The severity of children's sub clinical problems was coded in terms of mildly serious, moderately serious or uncertain, based on the results of the assessment procedures used in each study.

varied widely, with two thirds of reports involving 80 or fewer children and 21% involving samples above 100. The clinical severity of the problems was judged to be uncertain for 26.2%, mild for 43.8% and moderately serious (but sub clinical in nature) for 30%. Ethnic status was not described in most cases. The majority of treatments (68.8%) were administered in group formats and tended to be of short duration (51.5% lasted for 1-10 sessions) and for 68.5% of programs, only broad details were available regarding the specifics of the intervention procedures.

The primary screening procedures used to select children for interventions fell into four categories. Almost 15% examined academic records to identify students with poor academic achievement or those with attendance or discipline problems; 37.7% used instruments with known and acceptable reliability; 33.8% modified existing measures or employed an experimenter-developed instrument whose psychometric properties were unknown, and 13.8% were coded as 'other'. Seventy percent of the studies randomly assigned participants to treatment and control conditions; 90.9% used multiple outcomes to assess program impact and 20.3% used at least one standardized outcome measure. Only 35 studies collected follow-up data.

Effect sizes and outcomes

Only seven effects were negative, indicating that few interventions produced negative effects (but also suggesting an ongoing need to consider this in future programs). Both type of treatment and presenting problem were significant moderators of outcome. Developmental level, screening procedure employed and the number of outcome measures employed also emerged as moderating variables. Interestingly, variables that did not emerge as potential moderators of effect size included gender, ethnic status of program participants, individual versus group modality, characteristics of the treatment (for example, the number of session times and the length of each session) and experience level of the therapists. Both behavioural and cognitive-behavioural treatment produced significantly higher overall mean effects than non-behavioural treatment. Cognitive behavioural treatment was significantly more effective in reducing problems than behavioural treatment which in turn, was significantly more effective than non-behavioural treatment. With respect to improving children's competencies, behavioural treatment was significantly superior to non-behavioural treatment; cognitive behavioural treatment achieved intermediate results and did not differ significantly from other treatments.

All three categories of treatments produced mean effects for both problem reduction and competency enhancement that differed significantly from zero. The outcome data suggested that indicated prevention produces positive effects that are both

statistically and practically significant. Participants leave programs with significantly reduced problems and significantly increased competencies and manifest improvements in several areas of adjustment. Program effects also endure over time among studies collecting any follow-up data. The average participant in a behavioural or cognitive behavioural intervention surpasses the performance of approximately 70% of those in the control group.

Durlak and Wells (1998:784) further observe that the mean effects achieved by behavioural and cognitive behavioural programs are moderately high in magnitude and similar to those achieved by other established and psychological interventions⁹⁶. They conclude that indicated preventive intervention using cognitive-behavioural or behavioural techniques appears as effective as psychotherapy for children with established problems and more effective than other preventive attempts to prevent smoking, alcohol use, and delinquency.

The authors identified a range of future research directions. It was suggested that future investigations should operationalise their intervention techniques so that the relative effectiveness of different techniques for different types of problems can be studied more effectively. In addition, clearer specification of program components is required which in turn, could foster the development of process research that would assist in identifying the central mechanisms of change in different programs⁹⁷. It was further suggested that research designs comparing the effects of different interventions could also suggest how the efficacy of indicated prevention could be improved. Other recommendations included:

- future researchers should attempt to clarify how participant characteristics might influence outcomes;
- future research should also systematically examine the relationship between different social cognitive abilities and outcomes;
- more frequent use of standardized outcome measures, follow-up assessments, and attention-placebo control conditions could improve the methodology of studies;
- clarification of the specific long term effects of preventive intervention is needed;
- there is a need to continue using multiple measures to assess how children change in different outcome domains as this assists in understanding the impact of intervention more specifically and clarifying any outcome differences that appear among different interventions.

96. For example, the mean effect size drawn from a review of 156 meta-analyses of social educational and psychological treatments involving 9,400 studies was 0.47 (Lipsey and Wilson 1992). The most recent review of 110 child psychotherapy outcome studies reported weighted means ES of 0.48 (Weisz et al 1995). In contrast, mean effects for delinquency prevention typically have not exceeded 0.3 (Gensheimer, Mayer, Gottschalk and Davidson 1986; Lipsey 1992) and the most successful programs to prevent smoking or alcohol use in adolescents have obtained mean ESs between 0.29 and 0.36 (Bruvold 1993; Tobler 1992).

97. Durlak (1998a) reiterates that there is growing evidence in prevention research that the quality of program implementation influences outcomes.

Other findings from reviews of indicated prevention programs for children and adolescents

Tolan (1996), in his review of model intervention programs targeting current and future symptomatology of indicated populations found that 'good' programs had a number of common characteristics. These included:

- careful development of a clear theoretical rationale along with a personal commitment of the developers;
- creative funding and organisational sponsorship used to organise service delivery around specific problem requirements;
- standardised (but not restrictive) service activities, delivery and principles;
- the modification and expansion of the role of staff and service providers from traditional roles;
- the existence of a planned immediacy between training, research and evaluation and service;
- the productivity of this interdependence is self sustaining;
- the direct service focus is applied within a conceptual understanding of a continuum of care; and
- there is active preparation for practical constraints of clinical service programs.

Chapter 8

Early identification/early detection of signs and symptoms of disorders

In addition to evaluative research on primary prevention and secondary prevention (indicated prevention) of mental disorders in children and youth, some work has been undertaken in the areas of early identification/detection of signs and symptoms of specific mental disorders. Writers including Martin (1997, 1998), Matthey (1998), Mitchell (1998), McGorry (1998), Hunter (1998) and Kowalenko (2000) have provided some insights into the possibilities of early intervention with a number of disorders and/or specific populations. Further, the literature related to early intervention in a range of disorders (ADHD, anxiety, conduct problems, the perinatal period and chronic conditions) has been reviewed as part of the commissioned research for AusEinet, designed to develop clinical approaches to early intervention.

A brief overview of early intervention literature as it applies to early identification/detection of signs or symptoms of specific mental disorder will be presented here. Conduct disorder provides the best example of intervention at various stages of the genesis or pathway of a disorder and is therefore described in some detail (see also Sanders et al 2000). Early intervention in psychosis, and preventive interventions for the internalising disorders of anxiety and depression, will then be briefly discussed. Those interested in more detailed examination of early intervention in specific mental health disorders of young people are referred to Hazell (2000), Dadds et al (2000), Sanders et al (2000), Kowalenko et al (2000) and Swanston et al (2000).

Intervention in the developmental pathway of an illness: Conduct disorder

An excellent illustration of the possibilities of intervening in the developmental pathway of a specific mental disorder is provided by conduct disorder.

Developmental theorists have undertaken a great deal of research into the genesis of this disorder and it demonstrates the usefulness of an ecological-transactional model of development. Moreover, it clearly highlights both the potential and the need for early intervention.

Conduct disorder is one of the most common forms of psychopathology and also one of the most costly in terms of personal loss to sufferers, families and society (Gureje et al 1994). It is also one of the most difficult conditions to treat, because the disorder is complex and pervasive. The complexity is made worse by the lack of resources in the families and communities in which conduct disorder develops (Dishion, Patterson, Stoolmiller and Skinner 1991).

The disorder constitutes the most common reason for referral for psychiatric evaluation of children and adolescents, accounting for 30% to 50% of referrals in some clinics (Kazdin 1985). Prevalence in the general population is estimated to be between 1.5% and 3.4% of children and adolescents (Fergusson et al 1993; Feehan McGee and Williams 1993) when clinical interviewing is used as a method of detection. Epidemiological studies have reported a prevalence between 2% and 6% of the population (Kazdin 1993). Dadds (1997:522) observes that the frequency of children referred for disruptive behaviour problems more generally would be even higher. The ratio of conduct disorder and disruptive behaviour in general are higher in boys than girls⁹⁸, but as children mature, the gap between boys and girls closes.

During the last decade, epidemiological and diagnostic data, as well as data on the risk and resilience factors, have become available. In addition, new treatment approaches that are realistic and have a reasonable chance of success have been developed (American Academy of Child and Adolescent Psychiatry 1997).

What is conduct disorder?

The term 'conduct disorder' refers to a cluster of persistent antisocial behaviours occurring in approximately 5% of children and adolescents. The DSM-IV classifies conduct disorder as a subgroup of externalising behaviours referred to collectively as 'Attention Deficit and Disruptive Behaviour Disorders'. The disorders appear in various forms at different times during childhood and adolescence, but the common behaviours include antisocial behaviour and aggression to others, oppositional behaviour to caregivers, theft, vandalism, firesetting, truancy, and lying (Dadds

98. The male: female ration varies between 5:1 (Boyle et al 1992) and 3.2:1 (Bird et al 1988), depending on the age range studied.

1997:522). The behaviours characteristic of the disorder can vary in frequency and severity, and cluster in various combinations, but a formal diagnosis is not made unless they cause significant impairments to the daily functioning of the child and his or her social environment. Given that conduct disorder is rarely diagnosed before age 6, most young preschool children with externalising symptoms fit the criteria for Oppositional Defiant Disorder (ODD), Attention Deficit Hyperactivity Disorder (ADHD) or a combination of the two disorders⁹⁹. (See Appendix D for information on the criteria for the diagnosis of Oppositional Defiant Disorder, Attention Deficit Hyperactivity Disorder and Conduct Disorder).

Developmental pathways

Based on the seminal work of researchers such as Patterson (1986), Loeber (1990), Loeber, Green, Lahey and Christ (1992), Loeber, Wung, Keenan et al (1993), Farrington, Loeber and Van Kammen (1990) and others, a reasonably clear picture of the developmental course of conduct disorder has developed. Two developmental pathways related to aberrant conduct have been identified by developmental theorists: the 'early starter' and the 'late starter' pathways (Loeber 1982, 1990; Patterson, DeBaryshe and Ramey 1989). The hypothesised 'early starter' pathway begins formally with the emergence of aggressive and oppositional disorders in the early preschool period, progresses to aggressive (for example, fighting) and non-aggressive (for example, lying, stealing) symptoms of conduct disorders in middle childhood, and then develops into the most serious symptoms by adolescence, including interpersonal violence and property violations (Loeber et al 1992). In addition, there is an expansion of the settings in which the problem behaviours occur, from the home to child care or preschool settings, then to school settings, and finally to the broader community.

In contrast, for the adolescent onset 'late starter' pathway, the prognosis seems more favourable than for adolescents who have a chronic history of conduct problems stemming from their early preschool years. Adolescents who are most likely to be chronically antisocial are those who first evidenced symptoms of aggressive behaviours in the preschool years followed by early onset oppositional disorders and conduct disorder (White, Moffitt, Earls et al 1990). Children with early onset oppositional disorders also commit a disproportionate share of delinquent efforts in adolescence. Thus, oppositional defiant disorder (ODD) is a sensitive predictor of subsequent conduct disorder, and the primary developmental pathway for serious

99. Webster-Stratton (1997:430) notes that there is considerable diagnostic ambiguity among Oppositional Defiant Disorder (ODD), Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD) in the young preschool and early school age group, as well as true comorbidity.

conduct disorders in adolescence and adulthood seems to be established in the preschool period (Campbell and Ewing 1990; Loeber 1991).

Not all children with behaviour problems develop oppositional defiant disorder or conduct disorder, and not all children with conduct disorders become antisocial adults. Webster-Stratton (1997:432) notes that risk factors that contribute to a continuum of the disorder include:

- early age of onset (preschool years);
- breadth of deviance (across multiple settings such as home and school);
- frequency and intensity of antisocial behaviour;
- diversity of antisocial behaviour (several versus few) and covert behaviours at early ages (stealing, lying, fire setting);
- family and patient characteristics (Kazdin 1987);
- presence of ADHD.

When a child progresses along the early starter pathway, multiple influences and risk factors are responsible for his or her developing conduct problems (Hawkins, Catalano and Miller 1992; Offord, Boyle, Racine et al 1992). Theories concerning the aetiology of oppositional defiant disorder and conduct disorder suggest three categories of risk factors: child factors, parent and family factors and school related factors (See Appendix E).

Causes and consequences

Dadds (1997) asserts that it is crucial that conduct disorder is conceptualised as a developmental sequence involving multiple causative factors that interact at critical points or transition phases to produce the more chronic possibilities of this disorder. In this conceptualisation, there can be no one cause or treatment of choice of treatment for conduct disorder. Rather, windows of opportunity exist, corresponding to the developmental progress of the disorder and the settings in which it occurs, at which time different interventions may ameliorate current problems in the child's life, or prevent potential problems from developing. This developmental perspective on the disorder blurs the usual distinction between treatment and prevention. That is, the treatment of current problems can and should be seen as a preventive strategy against the next stage or transition in the chronic potential of the disorder (Conduct Problems Prevention Research Group 1992 cited in Dadds 1997).

There are many risk factors contributing to the development of antisocial behaviour in children, risks that are best seen as a set of systems, subsystems and components

of systems interacting at the biological, interpersonal, family and social levels. Further, there are no clear cut causal links between single risk factors and the child's behaviour; most of these factors are intertwined, synergistic and cumulative (Sameroff and Fiese 1990). Risk factors may result in an unfolding chain of events over time with cumulative effects which compound a child's vulnerability¹⁰⁰. The child's risk for antisocial behaviour seems to increase exponentially with exposure to each new risk factor. Moreover, the importance of any one factor will vary according to the developmental stage of the child. Dadds (1997) comments that developmentally, the literature indicates clusters of risk that also may be seen as windows of opportunity for establishing comprehensive intervention programs. Appendix F summarises his depiction of the developmental sequence of risk with some potential interventions at each point.

Implications for interventions

Dadds (1997) observes that this developmental model and its emphasis on the multiplicity of risk factors indicates that treatments need to be conceptualised in terms of the developmental stage of the child and specific patterns of risk factors he or she displays and is exposed to. A number of critical opportunities for intervention can be identified. The most well evaluated of these involves early intervention with the families of conduct disordered children in which parents of conduct disordered children are trained to provide effective, non-aversive discipline and communication with their children, and parents are empowered to constructively deal with other stressors that may compromise family stability, discipline and communication. As children approach the teen years, family interventions become increasingly difficult, and a combination of a family approach and a social problem solving intervention for the teenager becomes increasingly important.

Interventions

Early detection and intervention is a major factor in the prevention and treatment of conduct disorder. As Webster-Stratton (1997:447) observes: "Because it is clear that high rates of externalising problems in preschoolers have long term developmental consequences for some proportion of children and their families, the need for early intervention programs seems obvious. Long term follow up studies suggest that early intervention may be the most efficacious intervention we can offer these families and their difficult to manage children".

100. These causes can be conceptualised as additive risk factors (Loeber 1990).

She further asserts that intervention when these children are preschoolers is particularly strategic, because intervention programs for parents of preschool children can help these parents teach their children to behave appropriately before conduct problems result in peer rejection, well established reputations, and school problems, not to mention academic failure (Webster-Stratton 1997:432).

Most research on the prevention of conduct disorder has targeted the early-onset population. Such preventive interventions encompass the broad range of focal points from individual and family, to community and multi-component interventions. Those interventions that are individual-focused target a variety of behaviours in at risk children including peer relations (Lochman, Coie, Underwood and Terry 1993), problem-solving ability (Spivak and Shure 1989), and early achievement (Schweinhart and Weikart 1988).

As Miller and Printz (1990) observe, the interventions for conduct disorder with the strongest research evidence so far are family interventions in which caregivers are trained to provide effective, noncoercive discipline, acknowledgment and reward of the child's prosocial behaviour and achievements and effective family problem-solving and communication styles. Emerging evidence indicates that the age of the child is associated with the potential effectiveness of these interventions. Indeed, with younger children, evidence for these interventions is strong. As children move into the teen years, however, evidence for the effectiveness of these interventions becomes weaker. Clinical settings, in which the most common referral of conduct disorder is for teenagers, especially those who well established in a pattern of antisocial behaviour, will have relatively little success without the use of family interventions (Dadds 1997:533).

A growing number of programs recognise the important role of the school and broader community in the development (and in the prevention) of conduct disorder. School based programs include classroom based behaviour management programs¹⁰¹ and curriculum approaches to teaching children to appropriately recognise, express, and regulate their emotions through teaching self control and problem solving¹⁰².

Community based prevention programs have typically been implemented through a neighbour group or housing project. Such programs take a primary prevention

101. See for example, Kellam, Rebok, Ialongo and Mayer (1994).

102. See for example, Greenberg, Kusche, Cook and Quamma 1995 cited in Printz and Connell 1997:247.

approach (although it could be argued that interventions are being selectively applied). Typical strategies employed include parenting classes, leadership training courses, and individual or family counselling for residents. Printz and Connell (1997:251) comment that while such approaches have been less well documented than other approaches such as family based interventions, they represent a promising approach at intervention.

More recently, interest has turned to multi-component interventions that extend into multiple years, in part, as a response to the lack of evidence for short term single-level interventions producing positive outcomes with children a pronounced risk for early-onset conduct disorder. Such programs seek to combine a number of different prevention approaches and to address multiple systems affecting the child's development (Printz and Connell 1997:247). Examples of such programs include the Montreal Prevention Experiment¹⁰³, the Seattle Social Development Project¹⁰⁴ and the FAST Track project¹⁰⁵. Of particular interest is the Positive Parenting Program (Triple P) (Sanders and Markie-Dadds 1995) which, while taking a comprehensive multilevel approach, is entirely parent and family focused¹⁰⁶.

Evidence for treatment effectiveness in conduct disorder

Many different treatments have been applied to conduct disordered youths including psychotherapy, pharmacology, psychosurgery, home, school and community based programs, residential and hospital based treatments. (Kazdin 1985). Kazdin (1988) has reported more than 230 documented psychotherapies available for children and adolescents, but the vast majority have not been studied. Promising treatment approaches have been identified by Kazdin (1998) in his review of psychosocial treatments for conduct disorder in children, including cognitive problem solving skills training, parent management training, functional family therapy and multisystemic therapy. It is beyond the scope of this literature review to discuss the evidence of treatment effectiveness in conduct disorder in detail. The reader is referred to Sanders et al (2000) for a detailed discussion of relevant literature.

103. This project employs a parent training program plus a schools based skills training program for identified children that lasts for two years (Printz and Connell 1997:247).

104. This project incorporates a classroom based social skills program with parent training plus teacher training (Printz and Connell 1997:248).

105. This combines five intervention components: parent training, home visiting, social skills training, academic training and the PATHS curriculum (Printz and Connell 1997:248).

106. The Triple P program consists of five levels of intervention: (1) low cost self help program; (2) brief support interventions; (3) and (4) variations of parent training programs; and (5) intensive behavioural support family therapy addressing such issues as marital conflict, parental conflict and parenting stress.

This review of early intervention in conduct disorder does, however, demonstrate the usefulness of a developmental psychopathological model, (that is a pathway or trajectory model) in understanding the genesis of the disorder and the possibilities of intervention at critical stages along this pathway. Further, the multiplicity of risk factors for this disorder highlight the usefulness of an ecological-transactional model of development. At this stage in the development of early intervention programs for conduct disorder, the field has produced a number of intervention formats with what Printz and Connell (1997:252) refer to as modest results, but results with promise (Kazdin 1998).

Intervention in psychosis

Much of the research evidence related to the positive effects of early intervention in terms of early detection/case identification originates from work into early psychosis and much of this work has been undertaken in Australia. Researchers in this area (cf Birchwood, McGorry and Jackson 1997:2) assert that the early phase of psychosis is formative in biological, psychological and social terms, affording major opportunities for early intervention. Indeed, Birchwood, Todd and Jackson (1998) further argue that the early phase of psychosis is a 'critical period' in which long term outcome is predictable and biological, psychological and psychosocial influences are developing and show maximum plasticity. Yet, Birchwood et al (1997) observe that for psychotic disorders there are major delays in the provision of treatment. The time between first presentation and treatment after the onset of psychotic symptoms averages one year, and it is not until symptoms are well advanced that treatment is initiated. This is significant given that Johnstone, Crowe, Johnson et al (1986) found that those taking longer than one year to access and exit services revealed a threefold increase in relapse rate over the following two years, compared with those with a briefer duration of untreated illness. Moscarelli, Capri and Neri (1991) have observed that major damage can occur to the social and family environments and vocational prospects of a young person with psychosis for whom effective treatment is delayed¹⁰⁷. Similarly, Loebel, Liebermann, Alvir et al (1992) also report that the time to remission and level of remission is related to duration of untreated psychosis.

Wyatt (1995) suggests that untreated psychosis is 'biologically toxic' and is responsible for long term illness. Other research supports the notion that there may be physiological changes in certain parts of the brain as a result of diagnosable

107. Similar comments have been made with respect to depressive disorders, where mid to late adolescence is again the period of peak incidence and the associated social withdrawal can have a major impact on adult life.

psychotic disorder (Lieberman, Jody, Geisler et al 1993, Chatterjee and Lieberman 1999). The potential for irreversible biological damage to the brain provides strong support for importance of early intervention. It must be considered, however, that detecting an illness early is of value only if effective treatment is readily available. This obviously has implications in terms of availability of services, access to services, research into outcomes and effectiveness.

In later work, Wyatt (1997) asserts that early detection of disorder and effective treatment may lead to a dramatic reduction in further symptoms and prevent the development of diagnosable disorder, noting four types of studies that provide evidence that early intervention with anti-psychotic medications affects the long term course of schizophrenia. He does, however, comment that these studies must be interpreted cautiously and, at present, provide only 'tantalizing clues'. Depression, anxiety and psychosis are all likely to recur if not effectively treated early on.

The possibility of preventing the first onset of psychotic symptoms continues to intrigue present day clinicians (Birchwood and Macmillan 1993). Early intervention projects into psychosis have been conducted by Buckingham Early Intervention Project, the Auckland Early Intervention Project and the Early Psychosis Prevention and Intervention Centre (EPPIC). This latter project was developed in October 1992 in Melbourne as a comprehensive model of care for persons aged 16–25 years. Its focus is the early detection and intensive early treatment of emergent psychosis so as to limit the damage to personal identity, social networks and role functioning caused by underlying illness (McGorry et al 1996:311). This type of damage results from the usual delay between initial onset and treatment.

Services provided by EPPIC include a mobile assessment team that provides information and support through each stage of assessment. Assessments are often undertaken in the home and continuity of care is provided for the young person throughout their contact with the service. The model promotes the use of anti-psychotic medication in low doses, which has been found to be effective in first episodes of psychosis¹⁰⁸. Cognitively oriented psychotherapy is offered to help prevent depression, anxiety, demoralisation, and the lowered self-esteem that is often associated with a psychotic episode and to address the issues that young people confront.

A major benefit of the EPPIC Project has been the development of the *Australian Clinical Guidelines for Early Psychosis* (EPPIC 1997). These provide criteria and

108. A strategy of low dose medication is particularly effective in encouraging adherence to the medication regime.

strategies for identifying, monitoring and providing needs-based care during the period where there are signs and symptoms of an at risk state for early psychosis¹⁰⁹.

Internalising disorders: Anxiety and childhood depression

Beitchman et al (1992b) observes that although some progress has been made toward identifying the risk factors associated with internalising disorders, there is still much we do not know about the developmental pathways that lead to these disorders. In part, this appears to be related to neglect by researchers in favour of studies of externalising disorders. Bucy (1994:233) summarises some explanations for this research bias:

1. Internalising problems are frequently difficult to detect, particularly for those who are not mental health professionals (Reynolds 1990 cited in Bucy 1994:233).
2. Internalising behaviours may not be viewed as problematic because these children are characteristically quiet, well behaved and easily managed (Renken, Egeland, Marvinney, Mangelsdorf & Sroufe cited in Bucy 1994:233).
3. Children with internalising problems are generally more competent, are rated as more intelligent, are less egocentric, and are better readers, and they display more adaptive coping styles than those who externalise (Cohen, Gotlieb, Kershner & Wehrspann 1985).
4. Internalising behaviours are generally recognised as being less stable over time, which leads to questions regarding their clinical significance longitudinally (Cicchetti & Toth 1988 cited in Bucy 1994:233).
5. Unlike those who internalise, children with externalising behaviours generally make a greater impact on society by creating both personal and property damage (Beitchman et al 1992b).

Research efforts are, however, beginning to focus on clearly defining behaviours that are internalising and identifying the associated risk factors (Bucy 1994:234) and a general risk chain has been proposed by Bucy (1994:221) to examine the relationship of primary, secondary and tertiary prevention.

Internalising disorders such as depression and anxiety often have their earliest signs in childhood (cf Spence 1996b; Cicchetti and Toth 1998). Such problems exact

109. These guidelines are: (1) assessment and careful monitoring of the precursor symptoms during a potential prodromal phase; (2) look for other risk factors for early psychosis, eg family history; (3) psychosocial interventions are preferred during the prodromal phase at the present time; (4) optimally, the use of neuroleptic or other medication should be avoided during the prodromal phase, unless there is a very rapid deterioration or risk of harm to self or others. In this instance a time limited trial of low dose neuroleptics could be used; (5) promotion of awareness and education about risk factors and signs and symptoms associated with the prodromal phase should occur to inform parents, teachers, school counsellors, general practitioners, health professionals, and other relevant groups (EPPIC 1997:19).

substantial personal and financial toll on individuals, families and society but as noted, it is only in recent times that attention has focused on both treatment (Dadds, Heard and Rapee 1991) and on the potential for prevention and early intervention (Bucy 1994; Spence 1996b). Preventive and early intervention efforts do, however, have the potential to reduce the incidence of internalising behaviours significantly and to improve greatly the quality of life and the well being of thousands of young people (Bucy 1994:234).

Roth and Dadds (1999:169) comment that the most important recent theoretical development within the realm of anxiety disorders is the understanding of a trajectory of anxiety disorders. They summarise risk and protective factors emerging in the literature, noting that these 'switch in and out at various developmental points', thus allowing for the identification of a series of windows of opportunity for prevention and early intervention (ibid.). They further observe that: "From a developmental perspective, there are likely to be optimum times and optimum methods for taking preventive action, an area that will eventually become clearer as further prevention studies are evaluated longitudinally. Longitudinal studies are necessary to (1) develop efficacious and effective programs, (2) discover the specific factors necessary and sufficient to prevent the onset of anxiety disorder and build resilience; and (3) track the effectiveness of these strategies over time" (Roth and Dadds 1999:170).

Their review of outcome studies in this area notes that middle childhood appears to be an especially advantageous time for anxiety prevention and early intervention and they describe a number of treatment studies that have been developed with this group (Dadds, Spence, Holland et al 1997; Dadds, Holland, Laurens et al 1999) and which have been found to be effective (Roth and Dadds 1999). Importantly, they state that most of the interventions reviewed were efficacy trials and thus their effectiveness in the 'not-so-optimal' conditions of existing mental health treatment settings by non specialist, non research staff is unknown (ibid, 172). They conclude that preventive interventions need to move beyond efficacy trials to outcome studies of community effectiveness, noting the need to focus on the issues of mainstream dissemination, participant recruitment and intersectoral cooperation (Roth and Dadds 1999:173).

Bucy (1994:230-233) has outlined a number of preventive interventions for internalising disorders. Primary prevention efforts that promote psychological well being often begin in primary school or community settings. These include programs

such as Developing Understanding of Self and Others (DUSO, Dinkmeyer and Dinkmeyer 1982) which uses stories, pictures, role playing, creative activities and puppet play to improve self awareness, increase positive self images and facilitate relationships between self and others. This program has been found to have a positive impact on self esteem and social adjustment in young children (Bockoven and Morse 1986 cited in Bucy 1994:231).

A number of selective intervention programs have also been developed for children at selected risk for internalising disorders. The Children of Divorce Intervention Program (CODIP) (Alpert-Gillis, Pedro-Caroll & Cowen 1989) is offered to elementary aged children whose parents have divorced and aims to increase social support and improve coping skills. Outcome studies have indicated that the participating children reported greater adjustment to the divorce and improved ability to cope¹¹⁰.

Indicated prevention programs have also been developed for children with individual characteristics that increase their likelihood of developing an internalising problem. Problems in social interaction is one such characteristic and interventions usually take the form of social skills training, including modelling and coaching of appropriate social behaviours. While such programs appear to offer some improvement of social interaction skills in young people (Conger and Keane 1981), efficacy research of social skills training has been methodologically questioned (Bucy 1994:232).

One interesting Australian development has been that of the Resourceful Adolescent Program (RAP) which has been developed at Griffith University. RAP provides both early intervention and prevention programs for depression and anxiety disorders. The program is targeted at adolescents and their parents with adolescents participating in a classroom based resilience building program designed to promote positive coping capacities in the face of stressful and difficult life circumstances. Preliminary findings from this project showed reduced levels of depressive symptoms at post intervention and 10 month follow-up, particularly for those adolescents who initially showed high or moderate levels of depressive symptoms (Resourceful Adolescent Program 1999).

110. Children participating in the program were compared with children who received no prevention program. Parents and teachers also reported significant improvements in social skills and the children's ability to cope with feelings (Bucy 1994:232).

Chapter 9

Summary

The preceding section of the literature review examined the evidence for effectiveness of early intervention with children and young people. Broad themes from the literature on early intervention with socially disadvantaged children and disabled children were identified. A range of methodological problems and limitations of existing efficacy studies were identified. The literature suggests that while the efficacy of some early intervention programs has been established, there is a need for second generation research to address the 'what', 'why', 'when' and 'how' questions.

Attention then focused on the evidence for effectiveness of early intervention strategies with children and young people with mental disorders. A broad review of the literature related to primary prevention strategies (including selective interventions), secondary prevention strategies (including indicated preventive interventions) and case detection/early identification was provided. Similar methodological problems and limitations of effectiveness studies were noted.

The existing literature does, however, provide a clear rationale for the use of early intervention programs and strategies in mental disorders of children and young people. These programs and strategies encompass indicated and selective preventive interventions as well as early identification and case detection. It is argued, however, that the concept of early intervention in mental disorders best fits in the 'fuzzy interface' between selective preventive interventions and early identification/case detection. Existing evidence on effectiveness of early intervention, while not definitive, offers promise. Indeed, as Mrazek and Hall (1997:222) opine, cautious optimism is the key.

A number of critical questions facing current approaches to prevention and early intervention have been highlighted. These are best summarised in the following table developed by Durlak (1997:7). Durlak (1997:7) indicates that each of the questions needs to be answered in reference to different goals, populations, and settings.

*Table 7: Some critical questions facing current approaches to prevention
(Durlak 1997:7)*

Selecting target populations for intervention

1. Under what circumstances are universal, high risk, and transition approaches most effective?
2. What is the best way to identify normal individuals who are at future risk, but who do not yet have any problems (i.e. mount selective preventive interventions)?
3. For secondary (indicated prevention), how can we identify in the most reliable and valid fashion those who are just beginning to show difficulties?
4. How do transitions influence development?
5. What helps youth master difficult life transitions?
6. Can we determine who is at greater or lesser risk for different transitions?

Levels of intervention

1. What level of intervention or what combination of levels is most effective?
2. What is the best way to conceptualise and assess the environment?
3. What person-environment, bi-directional, and transactional interactions are most important?
4. How can we secure maximum participation of parents, teachers, peers and community groups?

Implications

A number of implications arise from this literature review. Essentially, it has highlighted the need to integrate research, policies and programs to improve interventions. One major systemic barrier to this is the problem focus of traditional mental health services and the lack of a clear policy direction, to prioritise early intervention.

Other implications relate to research, program development and implementation, funding, staff training, service reorientation, intersectoral relationships and partnerships and the policy environment and are briefly noted as follows:

Research

The literature review highlights the importance of conducting well evaluated interventions. Issues concerning outcome measures and measures of efficacy and effectiveness are explored in detail.

Program development and implementation

Good theory drives good prevention research. All early interventions should be developed from a sound theoretical base. Current findings on risk factors suggest the importance of multi level interventions. Ideally, programs should adopt a long term perspective, be flexible in providing services and should pay careful attention to program implementation.

Funding

Existing early intervention programs are often insufficiently funded and staffed. Lack of funding frequently results in lack of sustainability and often means that evaluation is a low priority. This highlights the need for increased funding of early intervention programs.

Staff training

The findings of the literature also suggest the need for more education and training of personnel involved in early intervention program development and implementation. People often do what they feel comfortable doing and have some experience with. This is often a reflection of how they were initially trained. The move towards more of an early intervention focus would necessitate staff training.

Service reorientation

A move towards an early intervention focus in service delivery would require significant service reorientation. This is well explored in O'Hanlon et al (2000).

Intersectoral relationships and partnerships

Early intervention depends on the sharing of information and expertise through intersectoral partnerships. Again, this issue is well explored in O'Hanlon et al (2000).

The policy environment

Research indicates that factors related to the content, implementation and ecological fit of a policy affect its ultimate impact (Palumbo and Calista 1990). Hence there is a need for a supportive policy environment to promote and sustain a focus on early intervention, a point highlighted by Mrazek and Hall (1997).

Final comments

While early intervention 'works', there may be a danger in overselling it. The field will inevitably encounter some setbacks whenever program evaluations produce non significant findings (Durlak 1997:200). Early intervention will not be successful in every situation or for everyone. Negative results should challenge us to search for the factors that maximise program impact and efficiency. Early intervention programs should, however, be a prominent part in the array of services available to young people.

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APPENDIX A

Risk and protective factors associated with criminal and antisocial behaviour

RISK FACTORS

| Child factors | Family factors | School context | Life events | Community & cultural factors |
|------------------------------------|---|------------------------------------|---------------------------|---|
| Prematurity | Parental characteristics: | School failure | Divorce & family break up | Socioeconomic disadvantage |
| Low birth weight | Teenage mothers | Normative beliefs about aggression | War or natural disasters | Population density & housing conditions |
| Disability | Single parents | Deviant peer group | Death of a family member | Urban area |
| Prenatal brain damage | Psychiatric disorder, especially depression | Bullying | | Neighbourhood violence & crime |
| Birth injury | Substance abuse | Peer rejection | | Cultural norms |
| Low intelligence | Antisocial models | Poor attachment to school | | Concerning violence as acceptable response to frustration |
| Difficult temperament | Family environments: | Inadequate behaviour management | | Media portrayal of violence |
| Chronic illness | Family violence & disharmony | | | Lack of support services |
| Insecure attachment | Marital discord | | | Social or cultural discrimination |
| Poor problem-solving | Disorganised | | | |
| Beliefs about aggression | Negative interaction/social isolation | | | |
| Attributions | Large family size | | | |
| Poor social skills | Father absence | | | |
| Lack of empathy | Long term parental unemployment | | | |
| Alienation | Parenting style: | | | |
| Hyperactivity/disruptive behaviour | Poor supervision & monitoring of child | | | |
| Impulsivity | Discipline style (harsh or inconsistent) | | | |
| | Rejection of child | | | |
| | Abuse | | | |
| | Lack of warmth & affection | | | |
| | Low involvement in child's activities | | | |
| | Neglect | | | |

PROTECTIVE FACTORS

| Child factors | Family factors | School context | Life events | Community & general factors |
|----------------------------|---|--|--|---|
| Social competence | Supportive caring parents | Positive school climate | Meeting significant person | Access to support services |
| Social skills | Family harmony | Prosocial peer group | Moving to new area | Community networking |
| Above average intelligence | More than two years between siblings | Responsibility & required helpfulness | Opportunities at critical turning points or major life transitions | Attachment to the community |
| Attachment to family | Responsibility for chores or required helpfulness | Sense of belonging/bonding | | Participation in church or other community groups |
| Empathy | Secure & stable family | Opportunities for some success at school & recognition of achievements | | Community/ cultural norms against violence |
| Problem solving | Supportive relationship with other adult | School norms concerning violence | | A strong cultural identity & ethnic pride |
| Optimism | Small family size | | | |
| School achievement | Strong family norms & morality | | | |
| Easy temperament | | | | |
| Internal locus of control | | | | |
| Moral beliefs | | | | |
| Values | | | | |
| Self related cognitions | | | | |
| Good coping style | | | | |

Source: National Crime Prevention (NCP) (1999b), Table 1.

APPENDIX B

A framework for examining preventive interventions (Mrazek and Haggerty 1994:505)

Program Name:

| 1. Description of the risk and protective factors addressed | 2. Description of the targeted population group | 3. Description of the intervention program | 4. Description of the research methodologies | 5. Description of the evidence concerning implementation | 6. Description of the evidence concerning outcomes |
|---|--|--|--|--|---|
| Documentation | Universal, Selective, or Indicated | Goals and Content | Methods of Recruitment | Exposure of target group to intervention | Changes in status of risk and/or protective factors |
| Relationship to developmental risk | Evidence that group is at risk for disorder or problem | Protocols | Sample size | Fidelity of delivery in accordance with design | Evidence of reduction of new cases |
| Causal status | Socio-demographic variables | Personnel delivering the intervention | Randomisation | | Evidence of reduction of new cases |
| Status in malleability | Site | | Baseline measures | | Evidence of delay of onset |
| Correlation with incidence & prevalence | Institutional or cultural context | | Statistical analysis | | Side effects |
| | Ethical considerations | | Attrition of subjects | | Benefit-costs and cost-effectiveness analyses |
| | Equipment or instrumentation | | | | |
| | Method of delivery and techniques | | | | |
| | Duration and extent | | | | |
| | Multiple components | | | | |

APPENDIX C

Evidence models

Levels of Evidence

(National Health and Medical Research Council [NH&MRC] 1999)

| | |
|-------------|--|
| Level I | Evidence obtained from a systematic review of all randomized controlled trials |
| Level II | Evidence obtained from at least one properly designed randomised trial |
| Level III-1 | Evidence obtained from well designed pseudo-randomised controlled trials (alternate allocation or some other method) |
| Level III-2 | Evidence from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group |
| Level III-3 | Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group |
| Level IV | Evidence obtained from case studies, either post-test or pre-test and post test |

APPENDIX D

Criteria for diagnosis of Oppositional Defiant Disorder (ODD), Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD)

(American Psychological Association, 1994)

ODD

The criteria for ODD consists of a 'persistent pattern of negativistic, hostile and defiant behaviours lasting 6 months' during which at least four of the following are present:

- often loses temper
- often argues with adults
- often actively defies or refuses to comply with a adults' requests or rules
- often deliberately does things that annoys most people
- often blames others for his or her mistakes or behaviour
- is often touchy or easily annoyed by others
- is often spiteful or vindictive

ADHD

The diagnostic criteria for ADHD are 'developmentally inappropriate degrees of inattention, impulsiveness and hyperactivity lasting at least 6 months'. The onset must be before age 7, and impairment from the symptoms must be present in more than two situations (for example, school, work, home).

CD

The criteria for conduct disorder require a 'repetitive and persistent pattern of behaviour in which either the basic rights of others or major age-appropriate societal norms or rules are violated', lasting at least 6 months during which at least three of the following symptoms are present:

- often bullies, threatens or intimidates others
- often initiates physical fights
- has used a weapon that can cause harm
- has stolen with confrontation of a victim
- has been physically cruel with people
- has been physically cruel to animals
- has forced someone into sexual activity
- often lies
- often stays out at night despite parental prohibitions, beginning before 13 years of age
- has stolen items of nontrivial value without confrontation of victim
- has deliberately engaged in fire setting
- has deliberately destroyed others' property
- has run away from home overnight at least twice while living at home
- is often truant from school, beginning before age 13
- has broken into someone else's house, building, or car

APPENDIX E

Factors that place youths at risk for the onset of Conduct Disorder (Kazdin 1998:67)

Child Factors

Child Temperament

A more difficult child temperament (on a dimension of 'easy to difficult', as characterised by more negative mood, lower levels of approach toward new stimuli, and less adaptability to change)

Neuropsychological Deficits and Difficulties

Deficits in diverse functions related to language (eg verbal learning, verbal fluency, verbal IQ), memory, reasoning, motor coordination, integration of auditory and visual cues, and 'executive' functions of the brain (eg abstract reasoning, concept formation, planning, control of attention)

Subclinical Levels of Conduct Disorder

Early signs (eg elementary school) of mild ('subclinical') levels of unmanageability and aggression, especially with early age of onset, multiple types of antisocial behaviours, and multiple situations in which they are evident (eg at home, school, the community)

Academic and Intellectual Performance

Academic deficiencies and lower levels of intellectual functioning

Parent and Family Factors

Prenatal and Perinatal Factors

Pregnancy and birth related complications including maternal infection, prematurity and low birth weight, impaired respiration at birth, and minor birth injury

Psychopathology, and Criminal Behaviour in the Family

Criminal behaviour, antisocial personality disorder, and alcoholism of parent

Parent-Child Punishment

Harsh (eg severe corporal punishment) and inconsistent punishment increase risk

Monitoring of the Child

Poor supervision, lack of monitoring of whereabouts, and few rules about where youth can go and when they can return

Quality of the Family Relationships

Less parental acceptance of their children: less warmth, affection, emotional support, and attachment

Marital Discord

Unhappy marital relationships, interpersonal conflict, and aggression of the parents

Family Size

Larger family size (that is, more children in the family)

Sibling with Antisocial Behaviour

Presence of a sibling, especially with an older brother, with antisocial behaviour

Socioeconomic Disadvantage

Poverty, overcrowding, unemployment, receipt of social assistance (welfare), and poor housing

School Related Factors

Characteristics of the Setting

Attending schools in which there is little emphasis on academic work, little teacher time spent on lessons, infrequent teacher use of praise and appreciation for school work, little emphasis on individual responsibility of the students, poor working conditions for pupils (eg furniture in poor repair), unavailability of the teacher to deal with children's problems, and low teacher expectancies.

NB: The list of risk factors highlights major influences. The number of factors and the relations of specific factors to risk are more complex than the summary noted above. For a more detailed discussion see Kazdin 1995; Loeber 1990; Mrazek and Haggerty 1994).

APPENDIX F

Developmental risk for Conduct Disorder and associated intervention opportunities

| Developmental phase | Risk factors | Potential interventions |
|------------------------|---|--|
| Prenatal-infancy | <ul style="list-style-type: none"> Child - Environmental toxicity Child - Temperamental difficulties Family - Poverty/low SES/social isolation Family - Family violence/ conflict/ separation Family - Parental psychopathology Family - Poor health/nutrition Social - Economic hardship/ unemployment Social - Family breakdown/isolation Family - Culture of violence | <ul style="list-style-type: none"> Environmental safety (eg lead minimisation) Early infant care programs Social equality/ support/ community connectedness Family support, education & therapy services Premarital & preparenting education programs Adequate healthcare/parental & infant support programs |
| Toddler-late childhood | <ul style="list-style-type: none"> Child - Learning & language difficulties Child - Impulsivity Family - Coercive family processes/violence Family - Low care & nurturance Family - Inadequate monitoring of child Social - Inadequate child care & parental support Social - Lack of educational opportunities Social - Negative or no parent-school relationship | <ul style="list-style-type: none"> Early remediation of learning & language difficulties Parent training & broader family intervention Family & marital support programs After-school care & monitoring Peer social skills programs |
| Teenage years | <ul style="list-style-type: none"> Child - School-employment failure Child - Cognitive bias to threat/hostility Child - Peer rejection/deviant peer group Child - Substance abuse/depression Family - Conflict/individuation problems Family - Rejection/homelessness Social - Lack of education/ employment Social - Culture of violence | <ul style="list-style-type: none"> Cognitive behavioural skills programs for teenagers Academic & work transition skills programs Crisis support for family/youth individuation problems Family-adolescent therapy services Substance abuse prevention Cultures of community respect & connectedness |

Source: Dadds (1997:531)

GLOSSARY

Affective Disorders

Disorders of mood including depression, mania and mixed disorders

Anxiety Disorder

A condition in which worry, anxiety or fear is a prominent symptom

Buffer Protective Factor

A protective factor which moderates risk-problem relationship

Cognitive Behavioural Therapy

A form of therapy that involves multiple treatment components in which the patient is taught to replace maladaptive thinking patterns with adaptive thoughts, to increase levels of self-reinforcement and to explicitly schedule pleasurable activities

Compensatory Protective Factor

A protective factor which has a direct effect on the problem or disorder

Competence

Refers to a pattern of effective adaptation in the environment

Conduct Disorder

A condition characterised by aggressive, destructive, deceitful and rule breaking behaviours. Defined according to standard psychiatric criteria

Consumer

A person utilising, or who has utilised a mental health service

Depressive Disorder

A clinical diagnosis referring to a constellation of disturbances in emotional, behavioural, somatic and cognitive functioning. Commonly includes sustained sad mood or lack of pleasure

Keystone Factors

Risk and protective factors that exert a large influence on adaptation (influence varies by race/ethnicity, gender, religion, age and other factors)

Mental Disorder

A diagnosable illness that significantly interferes with an individual's cognitive, emotional or social abilities

Mental Health

The capacity of individuals within groups and the environment to interact with one another in ways that promote subjective well being, optimal development and use of mental abilities (cognitive, affective and relational) and achievement of individual and collective goals consistent with justice



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