Title	Review of Evidence-based Mental Health Promotion and Primary/Secondary Prevention
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Publication Date	2009
Publication Information	Barry, M.M., Canavan, R., Clarke, A., Dempsey, C. & O'Sullivan, M. (2009). Review of Evidence-based Mental Health Promotion and Primary/Secondary Prevention. Report to the Department of Health, London.
Item record	http://hdl.handle.net/10379/2168

Review of Evidence-based Mental Health Promotion and Primary/Secondary Prevention

Report prepared for the

Department of Health, London

June, 2009

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Summary of Key Findings

Ensure a Positive Start in Life

There is substantial evidence to indicate that high quality comprehensive programmes carried out in collaboration with families, schools and communities can produce lasting positive benefits for young people and their parents. When these programmes are implemented effectively they lead to improvements not only in the mental health of children and their parents but also improved social functioning, academic and work performance and general health behaviours. The effects are especially evident in relation to the most vulnerable families from disadvantaged backgrounds and therefore investment in such initiatives is well spent and cost-effective.

Early Years Interventions:

- Systematic reviews of home visiting programmes show robust evidence of improved parenting skills, improved child development, reduced behavioural problems and improved maternal mental health and social functioning. Interventions have been found to be especially effective for families at higher risk and for those living in disadvantaged communities.

- There is limited and inconclusive evidence on the impact of home visiting on child abuse, however, the impact of early interventions on nonintentionl injury is more positive.

- There is some review level evidence that women at higher risk of postnatal depression or family dysfunction may benefit from postpartum support.

- Systematic reviews show that parenting interventions are effective in improving maternal psychosocial health, reducing child behavioural problems and improving the mental health of families with children with conduct disorders. Several reviews demonstrate positive effects for group-based interventions and for programmes directed at black or mixed ethnic parents and for parents from both disadvantaged and advantaged backgrounds.

- Systematic reviews demonstrate the effectiveness of early childhood and pre-school education progammes in enhancing the cognitive and social skills of children under five years of age, improved academic achievement, school readiness and mental and social development. The majority of the programmes

target children from disadvantaged backgrounds and the length and intensity of the interventions appear to be related to outcomes.

- Economic analyses of several early childhood interventions demonstrate that effective programmes can repay the initial investment with savings to government and benefits to society, with those most at risk making the greatest gains.

- There is a need for more studies of cost-effectiveness and cost-benefit analysis in the UK setting.

School-based Programmes:

- There is substantial evidence that mental health promotion programmes in schools, when implemented effectively, can produce long-term benefits for young people, including emotional and social functioning and improved academic performance.

- Systematic reviews highlight that comprehensive programmes that target multiple health outcomes in the context of a co-ordinated whole school approach are the most consistently effective strategy.

- Reviews of the evidence recommend that an integrated approach, using universal and targeted interventions, is required to cater for the needs of all children in a school.

- Peer-led approaches and mentoring programmes are recognised as potentially useful approaches.

- While there is currently no substantial evidence on cost-effectiveness, indirect evidence suggests that interventions of this type are likely to have wide ranging and lasting effects on mental and physical health, socio-economic status and involvement in criminal behaviour.

- Reviews suggest that selected and indicated programmes for reducing disruptive and aggressive behaviour produce larger programme effects for children at relatively higher risk.

- There is limited evidence on interventions responding to the needs of children from different cultural and ethnic backgrounds and the distinct needs of looked after children and children with a disability.

- There is a need for well designed high quality studies in the UK, with longitudinal designs to assess the impact of both whole-school and targeted approaches.

Promoting Meaning and Purpose through Workpalce Mental Health Promotion and Prevention

The current evidence suggests that a comprehensive and integrated approach to mental health promotion and prevention within the workplace, which combines both individual and organizational level interventions, will be more likely to be effective in improving and maintaining mental health at work. Effective workplace interventions address the physical, environmental and psychosocial factors influencing mental health, they strengthen modifying factors such as support for staff, enhanced job control, increased staff involvement, workload assessment, effort/reward balance, role clarity and policies to tackle bullying and harassment.

- There is a paucity of published studies of evaluations of workplace mental health policies, either in the UK or internationally.
- Stress management approaches that focus on changing the individual's capacity to deal with stress without changing the source of the stress, are of limited effectiveness.
- Evidence supports a range of individually focused approaches to managing mental health problems at work in either at risk populations or for employees already showing signs of mental health problems.
- There is an absence of large scale RCT's and well designed qualitative studies and a very limited UK evidence base.
- Evidence reviews suggest that Supported Employment, in particular specialist work schemes such as Individual Placement Support programmes, have a stronger effect on employment outcomes than pre-vocational training for people with mental disorders.

Promoting Mental Health through Building a Resilient Safe, Secure Base

There are many plausible policy interventions - such as improved neighbourhoods, housing, social cohesion and anti-discrimination - on building a safe secure base, which may be expected to directly or indirectly affect mental health, for which

evidence appears to be absent. Good quality primary research incorporating mental health outcomes are needed to strengthen the evidence base in this area.

- There is a paucity of review level evidence on effective interventions for building a safe secure base, both for the general population and for BME and socio-economically deprived groups.

- There is an absence of primary research on effective policy and practice approaches for building resilience at the level of social groups and the community. Further research is required on the nature and determinants of resilient communities.

- There is a paucity of evidence on the effectiveness of upstream policy interventions such as improved housing, welfare, education, transport, environments and employment in improving mental health and well-being. The mental health impact of these broad-based interventions needs to be determined.

- There is an emerging evidence base on the influence of environmental factors on mental health. However, the evidence base on effective interventions in this area is limited and needs further development.

- The impact of urban regeneration initiatives on mental health and on inequalities remains uncertain.

- The current evidence base is limited in relation to the mental health benefits of Timebanks, however, findings to date indicate their potential to promote mental health and well-being and the need for more robust evaluation of their impacts.

- Educational opportunities throughout life as associated with improved mental health and there is some evidence that participation in learning leads to mental health benefits.

- There is evidence that effective interventions such as the JOBs programme for unemployed workers can lead to reemployment, promote positive mental health and prevent the onset of depression for those at highest risk and is cost-effective in terms of increased economic benefit for participants and society.

- Mental health anti-stigma and discrimination campaigns or mass media interventions, particularly if they are supported by local community action, can have a significant impact on increasing understanding of mental health,

reducing stigma and increasing knowledge of coping and sources of support. They have the potential to impact positively on mental health literacy at the wider community level.

Promoting Integrated Physical and Mental Health & Well-being

There is a paucity of review level evidence on promoting integrated physical and mental health interventions. However, there is review level evidence on the mental health impact of interventions in specific areas such as exercise, and on specific interventions such as depression prevention in the primary care setting.

- There is an emerging evidence base on the benefits of physical activity and exercise promotion on mental health. There is a good body of evidence on the mental health and well-being benefits of physical activity for older people. Although there is robust evidence for the mental health benefits of physical activity, there is very limited evidence on what works to promote the uptake of exercise.

- There is a limited evidence base on the benefits of Social Prescribing schemes such as Learning, Arts, and Exercise on Prescription. However, the available evidence supports their potential value for promoting community mental health and well-being and as a mechanism for meeting the non-medical needs of primary care patients and people with mental health problems.

- There is some evidence that early identification and prevention of depression using cognitive-behaviour therapy (CBT) techniques can effectively reduce the symptoms of depression and recurring episodes of depression.

- There is review level evidence for the effectiveness of CBT and the use of some computerised cognitive behaviour therapy for depression and anxiety.

- There is review level evidence that psychosocial and psychotherapeutic interventions, particularly control enhancing interventions and cognitive behaviour therapy, in older adults significantly improve measures of self-reported psychological well-being.

- There is very limited evidence of effective approaches to suicide prevention among older people.

- There is evidence that comprehensive support programmes for carers of people with disabilities may be effective in reducing caregiver burden and its effects on mental health"

Promoting Mental Health through Developing Sustainable Connected Communities

The evidence base for mental heath promotion and prevention in sustainable connected communities is quite limited with little review level evidence available on effective interventions and approaches. Much of the existing evidence has focused on individual-level interventions and there is a need to generate evidence on the effectiveness of interventions operating at the community level in promoting positive mental health and preventing mental disorder.

- There is a limited evidence base on community interventions designed to promote social inclusion and strengthen social networks in the general population. However, community initiatives aimed at building social capital and increasing participation by excluded groups have the potential to make an important contribution in promoting community mental health and well-being.

- There is a paucity of review-level evidence on the promotion of positive mental health and the prevention of mental disorders among adults in the general population. Of the reviews identified, the majority focused on interventions for individuals or small groups at higher risk.

- Better research is needed to estimate the value of most interventions and research into cost-effectiveness is especially sparse with little economic research even into programmes with evidence of effectiveness.

- There is a paucity of research on mental health promotion and prevention interventions for BMEGs.

- There is limited research on the benefit of interventions for people undergoing stressful life events and transitions such as bereavement, job loss, divorce, long-term unemployment, living with a disability etc.

- There is a shortage of robust evidence for the effectiveness and cost-effectiveness of community interventions to improve the mental well-being of older people (Windle et al., 2007).

- While there is a well-documented association between social disadvantage and the presence of mental health problems and disorders, there is an absence of any systematic or other review level evidence of the mental health impact of interventions that aim to reduce social inequalities.

Introduction

This review paper, which was commissioned by the Department of Health in London, analyses the current evidence on the effectiveness of mental health promotion and primary/secondary prevention interventions. The paper provides a synthesis of the international evidence from reviews of reviews, systematic reviews, meta-analyses and selected individual studies on the effectiveness of interventions to promote mental health and prevent the onset of mental health problems and disorders. The review does not cover primary data from individual intervention studies and a systematic search of the grey literature on good practice has not been conducted. However, this paper builds on previous work undertaken in this area, in particular, the reviews by Jané-Llopis, Barry, Hosman and Patel (2005), Hermann et al. (2005) and Barry and Jenkins (2007).

Mental Health Promotion and Primary/Secondary Prevention

There have been important advances in establishing a sound evidence base for mental health promotion and prevention in recent years. There is consensus that there are clusters of known risk and protective factors for mental health (Mrazek and Haggerty, 1994); there is a growing body of evidence that interventions exist which can modify these factors; and a number of intervention programmes evaluated in efficacy and effectiveness trials have been established and disseminated (Hosman and Jané-Llopis, 2005; Jané-Llopis, Barry, Hosman and Patel, 2005; Herrman et al., 2005; Keleher and Armstrong, 2005; Barry and Jenkins, 2007). The IUHPE report for the European Commission (1999) clearly endorsed that mental health promotion programmes work and that there are a number of evidence-based programmes to inform mental health promotion practice. The accumulating evidence base demonstrates the feasibility of implementing effective mental health promotion programmes across a range of diverse population groups and settings (Jané-Llopis, and Barry, 2005).

Programmes promoting positive mental health have been found to result in impressive long-lasting positive effects on multiple areas of functioning and have also been found to have the dual effect of reducing risks of mental disorders (Hosman and Jané-Llopis, 1999). The strength of evidence from systematic reviews and effectiveness studies support the value of such programmes as effective initiatives capable of

impacting positively across multiple domains of functioning (Durlak & Wells, 1997; Tilford et al., 1997; Hosman and Jané-Llopis, 1999; Mentality, 2003; Jané-Llopis, Barry, Hosman et al., 2005). In the IUHPE 1999 report, Hosman and Jané-Llopis (ibid.) attest to the impact of mental health promotion programmes on the reduction of a range of social problems such as delinquency, child abuse, school drop-out, lost days from work and social inequity. The available evidence supports the view that competence-enhancing programmes carried out in collaboration with families, schools and wider communities, have the potential to impact on multiple positive outcomes across social and personal health domains (Jané-Llopis and Barry, 2005). Most interventions have been found to have the dual effect of reducing problems and increasing competencies.

Jané-Llopis et al. (2005) review of the evidence across key settings (homes, schools, workplace, community and health services) in terms of effectiveness in health, social and economic impacts, while acknowledging gaps in the evidence base, concludes that there is sufficient knowledge to move evidence into practice and provides recommendations for action. Marshall Williams, Saxena and McQueen (2005) in the same review issue calls for greater investment in mental health policies that are evidence-based. They point to the fact that currently available programmes need to be brought to scale, disseminated, adopted and implemented across countries and different cultural, social and economic contexts. Mental health promotion and prevention interventions that can be implemented and sustained at a reasonable cost, whilst generating clear health and social gains in the population, represent a cost-effective use of resources and a strong case for policy investment (WHO, 2002, 2005; Friedli and Parsonage, 2007; Barry and Friedli, 2008).

Methods
The following methods were used to identify the evidence to be included in this paper:
- Review of the existing literature and search of the electronic review databases (NICE, NHS/ Centre for Reviews and Dissemination, National Institute of Health Research (DARE, HTA, EEP), Effective Public Health Practice, Health Evidence Canada, the CDC Community Guide, US Mental Health and

Substance Abuse (SAMHSA), EPPI-Centre evidence library, ISI Web of Knowledge, the Cochrane database of systematic reviews).

- Selection of relevant review-level intervention studies
- Selected relevant individual studies.

The studies are reviewed in terms of the overall strength of the evidence, according to type of research design, target group, the health outcomes, social and economic benefits, effect sizes, impact on inequality and general conclusions. On the basis of best available evidence, the characteristics of successful interventions are outlined. Gaps in the evidence base are identified and issues requiring further research are highlighted.

Scope of the Review

The aims of the review are:

- to identify which interventions are supported by high-quality research evidence
- to identify the outcomes from effective interventions in terms of mental health improvements, wider health and social benefits and, where available, data on cost-effectiveness and impact on inequality
- to draw conclusions based on best available evidence about which interventions are most likely to be effective
- to identify the characteristics of successful intervention programmes and what makes them work
- to identify gaps in the existing evidence and highlight areas where further research is needed

The review of evidence spans population groups across life stages from the early years through to adulthood and old age and considers the findings in terms of interventions in key settings, including the home, school, workplace and community (including community-based services).

The Department of Health's 'Public Mental Health Framework for Developing Well-Being' is used to structure the review using the following headings:

1) Ensure a Positive Start in Life: Early Years Interventions for Children and Families

- Home visiting programmes – promoting child development, parental functioning, preventing behavioural and emotional problems and child maltreatment.
- Parenting programmes – positive parenting practices, emotional and behavioural functioning of children and parents, preventing behavioural problems.
- Promoting maternal wellbeing and preventing postnatal depression
- Pre-school education programmes – children's cognitive, emotional, social and academic development.

2) Ensure a Positive Start in Life: School-based Programmes

- Universal programmes to promote emotional and social learning for children in primary and post-primary schools – curriculum based skills training and whole school approaches.
- Selected and indicated prevention programmes for children at higher risk – violence or aggressive behaviour and bullying prevention, anxiety and depression.

3) Promoting Meaning and Purpose: Workplace mental health promotion and prevention programmes

- Promoting mental health and wellbeing in the workplace
- Interventions for reducing work related stress – individual and organizational approaches
- Supporting people with common mental health problems to retain and obtain re- employment
- Interventions supporting people with severe mental disorders to return to meaningful employment

4) Promoting Mental Health through Building Resilience and a Safe, Secure Base

- Socio-environmental influences – reducing inequalities, urban regeneration programmes, timebanks
- Access to education and learning
- Access to employment

- Reducing stigma and discrimination

5) Promoting Integrated Physical and Mental Health & Well-being
- Relationship between physical and mental health - promoting mental health through exercise
- Mental health promotion in primary care – social prescribing
- Preventing mental health problems in primary care- depression and anxiety prevention interventions, interventions for older people, postnatal depression
- Support programmes for carers.

6) Promoting Mental Health through Developing Sustainable Connected Communities
- Strengthening communities and social networks – promoting community participation
- Implementing community empowerment programmes
- Peer support models of community mental health promotion and prevention - self-help, bereavement support.

Details of the review level intervention studies and selected individual studies are provided in accompanying tables in Appendix 1 and 2 respectively. The key findings, implementation issues, gaps in the evidence, and conclusions from the review evidence are presented in the each of the sections of the review paper.

Section 1

Ensure a Positive Start in Life: Early Years Interventions for Children and Families

The early years of life are recognised as a crucial period in human development, as they lay the foundations for healthy development and good mental health throughout the lifecycle. There is a strong case for investing in early years, supporting families and children in reaching their full potential and reducing the risk of behavioural problems and poor mental health. Substantial social and economic benefits have been shown to accrue from high quality early childhood interventions (Karoly et al., 1998; 2005; Romeo et al., 2006; Friedli and Parsonage, 2007). The earlier family interventions are put in place, the better the mental health outcomes for the child. Key transition points in the life of families include, the period around birth (the first year), the pre-school period, and transition to and from school. Selective interventions involving intensive home visits, parenting programmes and educational preschool programmes are effective in promoting positive outcomes and modifying a wide range of protective and risk factors for mental health. However, once-off interventions are of limited effectiveness and there is a need for follow-up and integrated approaches in order to promote long-term maternal and child functioning (Barnes and Freude-Lagevardi, 2003).

A number of interventions have been developed to promote positive mental health in the early years of life through empowering parents, and enhancing resilience and competence in both children and parents. Such interventions have been found to produce positive outcomes for both children and their parents and have been found to be especially effective for families at higher risk and those living in disadvantaged communities (Kendrick et al., 2009; Barlow et al., 2003; Thomas et al., 2002; Kendrick et al., 2000; Elkan et al., 2000; Ciliska et al., 1999; Olds, Kitzman, Cole et al., 1997). The value of early intervention approaches lies not only in their ability to reduce the risk factors for negative developmental outcomes such as delinquency, substance misuse, teenage pregnancy, violence and school failure, but also in their potential to enhance positive child and family functioning through promoting competence, positive relationships and supportive environments for development

(Barry and Jenkins, Jané-Llopis et al., 2005). The protective factors identified include a sense of positive connection, a cohesive family, good communication, intimacy and confiding, self-esteem, good school performance and adaptive coping skills (Cowen and Work, 1988; Rutter, 1987). Social support from at least one caring adult has been found to be protective in relation to a wide range of adversities (Wolkow and Ferguson, 2001).

Early interventions therefore, have an important role to play not only in terms of preventing problems and their potential secondary effects, but also in their positive impact on enhancing family and community resilience via cultivating positive relationships and environments, which in turn fosters coping mechanisms. In contrast to the 'risk and prevention' perspective, the 'enhancement and coping' approach is also likely to be less stigmatising or threatening and more acceptable to participants which may encourage greater programme participation (Barnes and Freude-Lagevardi, 2003).

Box 1.1: Characteristics of effective early years programmes identified by Titterton et al. (2002):

- Programmes that are long term in nature
- Programmes sustained by committed funding
- Programmes that are part of a wider range of public policy measures, including those to reduce health inequalities
- Integrated approaches where multidisciplinary and multi-agency interaction is encouraged, such as partnership with the voluntary sector

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Interventions that provide quality family support programmes, quality pre-school programmes, and enhance parenting skills have the potential to achieve long-term mental health benefits for both the child and the parents. In terms of family support programmes, these entail specially trained community members or professionals providing ongoing support to families during pregnancy, infancy and early childhood with the goal of empowering parents and their children. Programmes focus variously on: enhancing nurturing and attentive parenting; developing parents' personal development and well-being; and enhancing healthy child development. Parenting programmes have shown increased positive attitudes towards children, better

knowledge about child behaviours, a more stimulating and safer environment for children and a more healthy, psychosocial and physical environment. In terms of the under fives, home visiting, parenting support, and pre-school or early childhood education programmes will be focused on in this section.

Home Visiting Programmes

The most common type of early years interventions are intensive home visiting programmes and centre-based support. Home visiting programmes may have a variety of goals and service elements, however, they all share a focus on the importance of children's early years, the pivotal role of parents in shaping children's lives and the importance of the home as a place or setting for promoting positive mental health. As a strategy for delivery, home visiting programmes bring services and the programme to the family home, rather than expecting families to seek assistance through their community services, and seek to improve the lives of children by encouraging changes in the attitudes, knowledge and/or behaviour of parents. Most of the programmes provide both social support and practical assistance to parents, in many cases linking families with other community services, child development, education and parenting programmes. While most programmes focus on improving parenting skills to promote healthy child development, in addition many also seek to prevent child abuse and neglect and/or to improve the lives of parents through encouraging mothers to find jobs, return to education and to plan subsequent pregnancies. Many programmes also seek to promote the use and take up of preventive services such as prenatal care, immunisations, or well-baby check ups.

Effective Home Visiting Programmes

Systematic reviews of home visiting programmes show robust evidence of improved parenting skills, improved child development, reduced behavioural problems and improved maternal mental health and social fucntioning (Ciliska et al., 1999; Elkan et al., 2000; Kendrick et al., 2000; Bull et al., 2004, Tennant et al., 2007; Kendrick et al., 2007). The details of review level studies and selected individual studies may be found in Appendix 1 and 2 respectively. The following key findings are outlined:

- Intensive health-led home visiting programmes to parents of children in the first two years of life are associated with improvements in parenting, child behvioural problems, improved cognitive development, a reduction in

accidental injury and improved detection and management of post-natal depression (Bull et al., 2004).

- Positive findings, with medium to strong effect sizes, are particuarly evident for programmes which start antentally, are of high intensity and of medium to long duration (follow up to at least 12 months), and are designed for parents at higher risk e.g. low-income parents, teenage parents, single parents, and mothers coping with post-natal depression (Tennant et al., 2007; Wadell et al., 2007).

- There is good evidence to support programmes for improving parental bonding and secure infant attachment. A meta-analysis by Bakermans-Kraneburg et al. (2003) reports on the effectiveness of a range of interventions for enhancing maternal sensitivity (ES = 0.33) and, to a lesser extent, infant attachment security (ES = 0.20) in both clinical and high risk families, including those with low SES, adolescent, minority, single, and clinically depressed mothers. Interventions with a structured behavioural focus on maternal sensitivity appear to be the most effective in enhancing both maternal sensitivity and children's attachment security.

- A review of the evidence by Tennant et al. (2007) also suggest the use of universal interventions such as the Brazelton Neonatal Behavioural Assessment Scale as a cost-effective way of promoting parental sensitivity with newborn babies.

- There is also some convincing evidence that peer-led interventions, i.e. trained volunteer home visitors or 'community mothers', employing an empowerment model of parent support, can lead to improved child and maternal functioning up to 7 years post-intervention for families from disadvantaged backgrounds (Johnson et al., 1993; Johnson et al., 2000), including nomadic families (Fitzpatrick et al., 1997) and in low-income country settings (Cooper et al., 2009). The incorporation of peer-led interventions based on the Community Mothers progamme (Johnson and Molly, 1995), have been developed in a number of countries, but to date these have not been as rigorously evaluated as the original programme. The potential of such peer-led interventions for marginalised and ethnic minority families needs to be explored further.

- There is some evidence that a combination of home visiting and centre-based services/support can have a positive impact on a range of child and parent outcomes for low-income and ethnic minority families. For example, the Early Head Start programmes in the US (Love et al., 2002; 2005) reports RCT level evidence from over 3,000 families showing a range of improved child and parental health and social outcomes including children's improved cognitive development, reduced aggressive behaviour and improved parent-child interaction (including fathers) and parents' participation in education and job training.

- Family support services run by the voluntrary sector, such as the Home-Start and Newpin (New Parent Infant Network) provide support through volunteers, usually mothers themselves, who befriend and work with parents under stress, complementing the statutory services. Both of these UK-based initiatives have been replicated in a number of countries and while small scale evaluations demonstrate positive impact on the mothers and volunteers, significant long-term outcomes from families in receipt of these services have not been clearly identified to date (McAuley et al., 2004).

- The majority of home visiting progammes have been designed for vulnerable families deemed to be at hisher risk of adverse outcomes. Intensive and comprehensive programmes, such as the Prenatal and Infancy Home Visitation by Nurses programme (Olds et al. 1988; Olds et al., 2004), have established strong evidence over 30 years of their cost-effectiveness in terms of long-term health, social and economic gains for low-income, unmarried and adolescent pregnant women having their first child.   This theory-driven structured programme is designed to improve prenatal health and the outcomes of pregnancy, the children's health and development and the mother's personal development. The programme, which is delivered by trained nurse home visitors, begins during pregnancy and continues for two years after the child is born, has been implemented in over 200 sites in the US and has been rigorously evaluated (Olds et al., 1986, 1988, 1994, 1997). Findings from a number of randomised controlled trials with participants from diverse backgrounds, show that the programme promotes improved maternal and child functioning early in life (Olds et al., 1988) and positive impacts at

15 years follow up on child abuse/neglect, behavioural problems, substance misuse and criminal behaviour for both children and mothers who participated in the programme (Olds et al., 1997). The programme cost an estimated $3,200 per family during the start-up phase (i.e. for the first three years) and $2,800 per family per year thereafter once nurses were completely trained and working at full capacity (Olds et al., 1998). A report from the Rand Corporation estimated that by the time the children from high-risk families reach age 15, the cost savings are four times the original investment because of reductions in crime, welfare and health care costs, and increased taxes from working parents (Karoly et al. 1998).

- The Prenatal and Infancy Home Visitation by Nurses programme is being implemented as the Family Nurse Partnership (FNP) programme across 30 sites in the UK by the Department of Health and the Department for Children Schools and Families. An evaluation of implementation in the first 10 sites by Barnes et al. (2009) examines the implementation, deliverability, take-up and costs of the programme, and the short-term impact on mothers' and children's health. Early findings are promising in that the programme is being well received by first-time young mothers, fathers, and service providers. The programme is reaching those who are likely to benefit most and short-term outcomes indicate improved confidence as parents, better coping skills, better breastfeeding rates and reduced smoking in pregnancy. The use of a randomised controlled design and longer-term evaluation of this initiative will be important in informing the future commissioning of high-intensity, health-led, early intervention and prevention programmes in the UK setting. (http://www.cabinetoffice.gov.uk/social_exclusion_task_force/family_nurse_partnership.aspx).

- Sure Start is an example of an area-based, multi-component support intervention designed to improve services for young children (0-4 years) and their families living in deprived communities in England. Based on comprehensive, community-based initiatives adapted to local needs, this national initiative provides a range of services such as outreach and home visiting, support for learning and quality play, family health and child development services and support for children with special needs from the

antenatal period to start of primary school. Some 3000 Sure Start Children's Centres have been established in England and a national evaluation on the implementation of Sure Start is underway. A review of findings from across 93 disadvantaged Sure Start Local Progamme areas (SSLPs) reported better social development outcomes for children, less negative parenting, better home-learning environments and greater use of support services than those not living in SSLP areas (Melhuish et al., 2008). Findings from the themed studies on family and parenting support in SSLPs (Barlow et al., 2007) found that while there was evidence of effective family support, few of the centres were delivering intensive evidence-based home visiting programmes and that additional training was needed to prepare staff to provide such structured support.

Interventions Preventing Conduct and Emotional Disorders

- A systematic review by Wadell et al. (2007) of interventions designed to prevent conduct disorder, anxiety and depression from 0-18 years shows that the most significant impact is for programmes targeting at-risk children in the early years using parent training or child social skills training (e.g. the Prenatal and Infancy Home Visitation by Nurses, and the Perry Pre-School programmes).

- Dretzke et al. (2009), reviewing the findings from 57 RCTs of the the clinical effectiveness of different parenting programmes for children with conduct disorder and problems, report significantly improved child behaviour outcomes and likely cost savings through reduced need for alterantive treatment. However, there is insufficient evidence to show clear superiortiy of any one approach to delivery or to specify which families are most likely to benefit.

- The economic case for early interventions in relation to conduct disorders is made by Romeo et al. (2006) and Friedli and Parsonage (2007) who point to the high burden and cost of conduct disorders in the UK and the fact that the benefits from such interventions are so large relative to costs that the inteventions are worthwhile even with limited effectivess.

Evidence of the Impact of Internventions on Child Abuse

There is limited and inconclusive evidence on the impact of home visiting on child abuse. A number of methodological problems in measuring child abuse, including outcome report and surveillance bias, have been identified (Barlow et al., 2006). However, the impact of early interventions on nonintentionl injury are more positive (Kendrick et al., 2007).

- Review level evidence (Barlow et al., 2006) shows limited evidence for interventions designed to improve child abuse and neglect. Home visiting, parenting programmes and a range of family support interventions have been found to lead to improvements in objective measures of abuse and neglect. There is good evidence of modest benefits in improving outcomes that are associated with these problems, including parental and family functioning and child development. Bilukha et al. (2005) report on pooled data from 21 studies, showing an overall 39% reduction in the rate of child maltreatment as an outcome of home visitation interventions compared to controls.

- The Healthy Families New York is a community-based programme, which is based on problem-solving and strengthening family support networks, for pregnant women deemed to be risk of abusing or neglecting their children. Reports from RCT findings indicate that this programme leads to reduced acts of abuse and neglect, less physical aggression and improved parental functions in terms of depression and drug misuse (DuMont et al., 2007; Mitchell-Herzfeld et al., 2005).

Interventions Promoting Maternal Mental Health

- Interventions for promoting maternal mental health include routine ante-natal screening for poor mental health e.g. depression, and experience of intimate partner violence (NICE, 2007) and targeted parenting programmes for at risk mothers including mothers with depression, intimate partner violence, early or single parenthood.

- There is some review level evidence that women at higher risk of postnatal depression or family dysfunction may benefit from postpartum support. Shaw et al. (2006) in a systemativc review of 22 RCTs found that home visitation or peer support for women at high risk of postnatal depression lead to significant

reductions in postnatal depression. No signficant improvements were found from universal interventions for low risk women.

- A study by Cooper et al. (2003) found that preventive counselling begun antenatally for women at high risk, plus postnatal support and counselling up to 8 weeks postpartum, reduces the duration of postnatal depression symptoms.

- Morrell et al. (2009) report that health visitors who are trained to identify and deliver Cognitive Behaviour Therapy can be effective in reducing levels of postnatal depression.

(Further details on postnatal depression interventions may be found in Section 5).

Parenting

Parenting programmes have an important role to play in the promotion of mental health. Such programmes show a direct effect on the mental health of mothers through the development of participants' skills, understanding and self-confidence and, through these changes, enhance the lives and mental health development of their children. Pugh et al. (1995) point out that it is unlikely that one approach will always be best for all parents and the type of programme offered should reflect the needs of individual parents. They also point out that absence of childcare, lack of transport and programmes' failure to be tailored towards need, all contribute to the exclusion of parents in greatest need. Different formats and techniques have been found to be effective in parenting programmes. A review of the international evidence by Moran (2004) suggests that parenting inteventions improve parenting knowledge and skills including supervision and monitoring, boundary setting, discipline, communication and negotiation.

Box 1.2: Good practice parenting support initiatives have been found to include the following characteristics;

- adopt empowerment approaches aimed at raising parents' confidence and self esteem

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- broad-based content

- focus on individual and family interpersonal issues

- focus on specific parenting skills

- accessible to those most at risk.

Effective Parenting Programmes

Recent systematic reviews have shown that parenting interventions are effective in improving maternal psychosocial health (Barlow, 2002), reducing child behavioural problems in infants and toddlers (Barlow, 2003), and in children aged 3 to 10 years old (Barlow& Stewart-Brown, 2000) and improving the mental health of families with children with conduct disorders (NICE, 2006).

- Several reviews demonstrate that parenting programmes improve the emotional and behavioural adjustment of children, with positive effects identified for group-based interventions and for programmes directed at black or mixed ethnic parents (Barlow et al., 2004), and for parents from both disadvantaged and advantaged backgrounds (Barlow et al., 2003).

- Based on a meta-analysis of 23 programmes, Barlow et al. (2003) conclude that there is clear evidence of the short-term effectiveness of parenting programmes in improving psychosocial outcomes for mothers of children 3-10 years including, improving self-esteem, reducing anxiety, stress and depression and improving relationship with spouse /marital adjustment.

- Barlow and Parson (2003) report some review level evidence that group-based parenting programmes improve the emotional and behavioural adjustment of children under the age of three years. However, they point to insufficient evidence on the role that these programmes may play in preventing such problems. There is limited data on the long-term effectiveness of these progammes over time.

- Parenting programmes delivered during the first three years of life can be effective in improving a range of outcomes including parenting practices and child emotional and behavioural adjustment (Tennant et al., 2007). Different formats and techniques have been found to be effective and there are inconsistent findings as to the most effective format for delivery. The likely

cost savings on group-based interventions versus indivual-based progammes is likely to work in their favour.

- A systematic review of 15 studies, including 11 RCTs, found that parenting interventions provided within the home using multi-facted interventions (education and training plus a range of support services) lead to safer home environments, improved safety practices and reduced unintentional injuries in children aged 18 years and younger (Kendrick et al., 2007).

- There is some evidence of successful parenting programmes in managing behavioural problems and a number of individual programmes are identified.

- The Triple P Positive Parenting progamme has been found to be an effective parenting intervention which can be successfully incorporated into service delivery in a range of health and community services. Findings from a number of randomised controlled trials (Sanders, 1999; Sanders et al., 2000; Dean et al., 2003) demonstrate an increase in positive parenting practices, which in turn results in improved children's behaviour including reduction in disruptive child behaviour, lower levels of dysfunctional parenting, reduction in conflict between parents, and gains in parental mental health. Findings from a meta-analysis of 14 RCTs (De Graaf et al., 2008) indicate that the Triple P programme is effective in bringing about sustainable behavioural improvements for high-risk children who have detectable problems but do not yet meet diagnostic criteria for a behavioural disorder.

- The Incredible Years Series (Webster Stratton et al., 2001) is a comprehensive evidence-based training programme for parents, teachers and children aimed at preventing and reducing behavioural and emotional problems in children aged two to eight years. This intervention employs a combination of techniques and findings from six randomised trials show that the parent programme is effective in reducing conduct problems and increasing positive affect and compliance with parental commands (Webster-Stratton 1990, 1999, 2001). Replications in the UK by Patterson et al. (2002) also support positive parent and child outcomes. A study by Edwards et al. (2007) found that this programme improves child behaviour at a relatively low cost, and is cost-effective compared with waiting list controls, especially for those children at

highest risk of developing conduct disorder. These findings suggest that this intervention represents good value for money in public spending.

Implementation Issues:

- There is strong evidence to suggest that intensive home visiting and centre-based support is successful in enhancing resilience and competence in both children and parents, which in turn helps prevent mental health problems (Jané-Llopis, Barry, Hosman and Patel, 2005).

- To be successful such interventions must begin early, be sustained in the long term and target risk and protective factors (Titterton et al., 2002; Mental Health Foundation, 1999).

- It is also recognised that families often in most need of such programmes are least likely to avail of them, therefore, community based initiatives with the opportunity for local participation are more likely to be successful in reaching families at higher risk.

- Building partnerships with parents is recognised as an essential strategy for promoting children's healthy development. Partnerships in themselves can help create a context that promotes and sustains mental health among children, adults and communities at large (Bond, 1999). This is particularly important when working with vulnerable children and families living in disadvantaged communities, as the parents' own development and empowerment may be key to supporting their abilities to create and sustain conditions that are supportive of their children's mental health and development.

- Programmes adopting a competence enhancement approach, carried out in partnership with parents, families, local communities and services are more likely to be successful in reaching those who need them most.

Pre-School Programmes

Early childhood or pre-school education programmes aim to provide children under five years with the knowledge, skills and social competence required for positive development and successful adjustment in school. Pre-school programmes promote cognitive and social skills that enhance school readiness and promote better school adjustment and performance, which is recognised as a protective factor for

behavioural problems such as delinquency (Schweinhart and Weikhart, 1988). Many pre-school programmes also include extensive contact with parents as well as teachers, including home visits. These programmes seek to engage parents in their children's education and enhance parental competence and involvement in their children's development. The programmes impact on parents' behaviour and foster more positive expectations of the child's performance in school, of the school itself and of the teachers. Such programmes promote multiple competencies and are capable of producing positive effects on many risk and protective factors for diverse problem behaviours. Research findings show that high quality pre-school programmes can produce positive enduring changes in children's social and behavioural functioning (Lazar, Darlington, Murray et al., 1982; Schweinhart and Weikart, 1988; Schweinhart et al., 2005; Campbell, 2002; Sylva et al., 2007).

Box 1.3: Characteristics of high quality preschool programmes (Schweinhart and Weikart, 1988; Weissberg, Caplan and Harwood, 1991)

- a developmentally appropriate curriculum,
- based on child-initiated activities
- teaching teams that are knowledgeable in early childhood development
- receiving ongoing training and supervision
- class sizes limited to fewer than twenty 3-5 year olds with at least two teachers administrative leadership that includes support from the programme
- systematic efforts to involve parents in their child's education
- sensitivity to the non-educational needs of the child and family
- evaluation procedures that are developmentally appropriate

Impressive long-term results have been achieved by programmes that address pre-school development, such as enhancing language, cognitive and social skills. Comprehensive programmes, which combine elements of home visits with day care, high quality education programmes and parent support appear to be the most effective (Barry and Jenkins, 2007).

Evidence of Effective Pre-School Interventions
- Systematic reviews demonstate the effectiveness of early childhood and pre-school education progammes in enhancing the cognitive and social skills of

children under five years of age, improved academic achievement, school readiness and mental and social development (Anderson et al., 2003; Nelson et al., 2003, Karoly et al., 2005; Schweinhart et al., 2005; Sylva et al., 2007). There is also some evidence of positive effects on family outcomes including for siblings (Anderson et al., 2003).

- The majority of the programmes target children from disadvantaged backgrounds and the length and intensity of the interventions appear to be related to outcomes (Nelson et al., 2003).

- High quality pre-school programmes lead to stronger and more enduring effects on outcomes, especially for disadvantaged children, boys, and children with special educational needs. An early start and the duration of attendance impacts on effectiveness, as does having higher qualified staff (Sylva et al., 2008).

- Larger effect sizes are generally reported for social emotional impacts (ES - 0.27-0.33) and cognitive outcomes (ES = 0.30) compared with changes in anti-social behaviour (Tennant et al., 2007).

- Long-term follow up indicates that high qualty interventions lead to increased employment, lower teenage pregnancy, higher socio-economic status, decreased criminal behaviour and positive effects on the mother's employment (Zoritch et al., 2000, Anderson et al., 2002; Campbell et al., 2002; Schweinhart et al., 2005).

- While the majority of the review findings are from US studies, Sylva et al. (2007) also report similar findings from their investigation of the effects of pre-school education and care on the development of 3,000 childen (3-7 years) from differing social backgrounds across England. Pre-school education was found to enhance all-round development compared to none, with positive effect sizes being reported for academic performance e.g. english (ES = 0.22) and mathematics (ES = 0.26), and pro-social behaviour outcomes (ES = 0.19).

- Considering the economic benefits of pre-school provision, favourable benefit-cost ratios are reported for both higher-cost, more intensive programmes and lower-cost, less-intensive progamme. The Abecedarian programme (Campbell et al., 2002) is one of the most intensive US programmes involving full-time, year-round, center-based care provided from

soon after birth through to kindergarten entry. Despite the high cost, the programme is estimated to generate benefits to society that are over three times its costs - equal to nearly $96,000 in net benefits per child. In contrast, the HIPPY programme (Baker et al., 1998), as one of the lowest cost interventions with a benefit-cost analysis, is also estimated to generate benefits to society of nearly $2 from every dollar invested with net benefits per child of about $1,400 (Karoly et al., 2005). The Chicago Child-Parent Centers programme, shows costs per participant of $6,692 and cumulative benefits at age 25 of of $48,000, that is a cost ratio of over 7 to 1 (Reynolds et al., 2002).

- Findings support the effectiveness of high quality pre-school programmes for young children living in poverty. Programmes such as the High Scope Perry Pre-School Project contribute to children's intellectual and social development in childhood and their school success, economic performance and reduced commission of crime in adulthood (Schweinhart and Weikart, 1988; Schweinhart, Montie, Xiang et al., 2005). The High/Scope Perry Preschool Programme is a community-based, highly effective preschool education intervention designed to promote intellectual and social development in children aged three and four years from disadvantaged backgrounds. This project, which was developed along the same lines as the Head Start initiative, uses an active learning approach, imparting cognitive and learning skills and encouraging independent and intuitive thinking that support children's development through school and into young adulthood. The programme improves the academic success of low-income children and assists parents in providing the necessary supports for their children to develop intellectually, socially and mentally. The programme reduces the risk of underprivileged children becoming delinquent and continuing a life of poverty, by improving their chances of finishing school and thus attaining greater economic and social wealth. Findings from a RCT study, that followed 123 disadvantaged African-American children over 40 years, confirm that a high-quality, early childhood programme can achieve a significant impact on the life-course of disadvantaged three and four year olds. Children participating in the intervention had improved school performance, higher employment rates, better jobs, higher earnings, more likely to be married, to own their own home,

have significantly fewer arrests, and less likely to be in receipt of social service benefits.

- Benefit-cost studies of the Perry Preschool programme include analyses based on the age-25 follow up data by Karoly et al. (1998; 2005), Barnett (1993), Schweinhart, Barnes and Weikhart (1993) and based on the age-40 follow up data by Barnett et al. (2005). A benefit-cost analysis of the programme by Barnett (1993) indicated that there was a seven to eight fold return on the initial investment in the programme, estimated at $1000 per child, due to decreased schooling costs, welfare and justice costs and higher earnings due to improved academic and social outcomes of the programme participants. However, with longer follow up at age 40, the net benefits and benefit cost ratio for Perry Preschool more than double: from $115,000 to $238,00 in net benefits per participant and increases from $8.74 to $17.07 in benefits for every dollar invested (Karoly et al., 2005; Schweinhart et al., 2005).

The economic evaluation of early years interventions

A number of studies have demonstrated significant cost benefits from early years interventions, and particularly so for long-term outcomes (Karoly et al. 2005). Economic analyses of several early childhood interventions demonstrate that effective programmes can repay the initial investment with savings to government and benefits to society, with those most at risk making the greatest gains (Karoly et al., 2005; Galinsky et al., 2006). There are favourable economic returns for programmes that focus on home visiting and parenting, as well as those that combine services with early childhood education. There is an emerging evidence base which demonstrates that high quality early interventions are worthwhile investments.

- Longitudinal studies not only show that the benefits from early years interventions can be long-lasting in multiple domains but they also show that the savings the programmes generate can be substantial.
- Those most at risk will make the greatest gains from early childhood programmes and the social costs will be the highest for a failure to intervene on their behalf.
- The largest benefit-cost ratios are associated with programmes having longer-term follow up as they allow for measurement at older ages of outcomes such

as educational attainment, delinquency and crime, earnings, and other outcomes that more readily translate into economic benefits.

- Cost-benefit meta-analysis was conducted by Karoly et al. (2005) for home visiting programmes serving at-risk children and for early childhood education progammes serving low-income 3 and 4 year olds. For five of the seven studies the estimates of the net benefits per child served range from about $1,400 per child to nearly $240,000 per child. Viewed another way, the returns to society for each dollar invested extend from $1.26 to $17.07. Positive net benefit was found for progammes that required a large investment (over $40,000 per child) as well as those that cost considerably less ($2,000 per child).

- Karoly et al. (2005) indicate that there is some evidence that the economic returns from investing in early intervention programmes are larger when programmes are effectively targeted to serve disadvantaged or at risk children. However, the authors state that the net benefits from universal programmes may still be positive and the associated benefit-cost ratios may still exceed 1.

- Extrapolating to the UK situation, Friedli and Parsonage (2007) estimate the annual costs of parenting programmes for children with conduct disorder and conduct problems in the UK (based on a review by Dretzke et al., 2005). The total cost of delivering both individual-based and group-based progammes is estimated at £210 million for the children with conduct disorder (£6,000 per individual programme unit cost for 35,000 children) and £425 million for children with conduct problems (£1,350 per group programme for 315,000 children), while the potential lifetime benefits of effective interventions is estimated at £5.25 billion and £23.6 billion respectively. The authors argue that the potential benefits are so large relative to the costs that the inteventions need only a low success rate (1 in 25 for conduct disorder and 1 in 55 for conduct problems) to make them worthwhile.

Impact on inequality

Early years interventions have an important role to play in addressing child health inequalities. As home visiting and parenting programmes often deal with the most vulnerable families, such as those living in socially and economically disadvantaged

communities and often experiencing high levels of stress and increased risk, these interventions are viewed as having the potential to break cycles of disadvantage and social exclusion by mitigating adverse outcomes for young vulnerable parents and their children and leveling the playing pitch in terms of positive development. However, we need to have realistic expectations about how much such programmes can achieve. These programmes typically consist of 20-40 hours of contact per year and seek to impact on complex problems such as child abuse, neglect and the negative effects of poverty. Intervention programmes tend to focus primarily on parents and children, and as such do not address the wider structural factors such as poor, disorganised or violent communities. By themselves such programmes are insufficient to alleviate the effects of poverty on child development and family functioning. As such they are necessary but not sufficient, and should not be judged against their ability to impact on problems that are societal or community-wide in nature. If families live in communities where poverty is entrenched, programmes that focus solely on individual change rather than broader policy solutions may have limited impact. As Weiss (1993) cautions; " home visits in the early years to enhance parents and help families should not be viewed as a lone silver bullet or panacea" (p. 121). The effectiveness of these programmes need to be considered in the context of wider policy initiatives addressing the structural determinants of poverty and child health inequalities.

Gaps in the Evidence

The folllowing gaps in the evidence base are identified:

- The comparative effectiveness of home visiting and parenting programmes for high risk and low risk families need to be established. Many early years interventions are designed to serve targeted disadvantaged populations and the relative effectiveness of targeted versus universal delivery is not fully established. However, Barnett et al. (2004) argue that a universal programme that is incorporated into standard delivery may be less costly to administer because there is no requiremet to determine eligibility and they avoid the potential stigma associated with targeted programmes. Economic evaluations by Galinsky et al. (2006) make the case for universally available programmes with targeted add-ons to meet the differing needs of children at greater risk.

- Demonstrating that interventions can be successfully implemented as part of routine service delivery is an important challenge. A number of evaluation studies, including those for the Sure Start parenting progammes and the Family Nurse Partnership pilot in the UK, have pointed to the variable quality of programme implementation across sites and the need for staff training and support to ensure a structured approach to high quality delivery. The effective scaling up of programmes in standard service delivery, both in terms of reach and intensity for populations at higher risk, needs to be further evaluated through systematic studies of programme implementation as well as impact and outcomes.

- Most of the literature is derived from North American and US based studies. Universal home visiting is provided by UK home visitors and midwives and home visiting is now a key delivery mechanism for the Sure Start and Family Nurse Partnership programmes. There is need for more high quality UK evaluation studies of home visiting, measuring both short-term and long-term outcomes for children and parents (Elkan et al., 2000; Bull et al., 2004).

- The comparative effectiveness of progammes delivered by trained health professionals versus trained volunteers needs to be determined. The potential of peer-led interventions for specific population groups need to be evaluated more extensivley in the UK context.

- Few studies provide robust follow up data making it difficult to establish if the positive effects are sustained in the long term. Lack of follow up data also make it difficult to identify sleeper effects as positive outcomes may only emerge later after the programme intenventions have ended. High quality evaluation studies with longitudinal designs are required.

- Evidence of the comparative effectiveness of interventions of different intensity and duration needs to be established.

- There is a need for more studies of cost-effectiveness and cost-benefit analysis in the UK setting.

- The cultural acceptability of early childhood programmes for familes from different ethnic backgrougns has not been examined and the effectiveness of more culturally specific parenting programmes reflecting the needs and values of local communities and ethnic groups needs to be established.

- Further studies are required to determine the impact of early interventoin programmes in the area of child injury, accident prevention and post-natal depression.

Conclusions

There is substantial evidence to indicate that high quality comprehensive programmes carried out in collaboration with families, schools and communities can produce lasting positive benefits for young people and their parents. When these programmes are implemented effectively they lead to improvements not only in the mental health of children and their parents but also improved social functioning, academic and work performance and general health behaviours. The effects are especially evident in relation to the most vulnerable families from disadvantaged backgrounds and therefore investment in such initiatives is well spent and cost-effective. The critical issue is ensuring that the programmes are of high quality and are implemented effectively and are sustained for enduring effects.

Based on the existing research the following cross-cutting principles underpinning good practice and successful programme implementation in working with families and young children are identified by Barry and Jenkins (2007):

- Undertake a needs assessment to establish the characteristics and wishes of the population who are intended to receive the programme; assess the social context and family circumstances and ensure that programmes are matched to participants' needs.

- Develop programmes based on a strong theoretical framework.

- Interventions that include at least two generations i.e. both parents and children, appear to be most likely to lead to improvement. Group interventions for parents appear to be cost-effective and acceptable.

- Programmes should start prenatally, be of long duration and of high intensity. Prenatal programmes followed by comprehensive postnatal services over the first year appear to be most effective. Offering a small number of high intensity services to a family is likely to be more effective than a large number of low intensity programmes.

- Interventions with first-time parents have the clearest positive effects because the development of adaptive parenting styles can be carried forward to later born

children. Where there are limited resources this type of intervention is recommended.

- Programmes targeting families from disadvantaged backgrounds such as high levels of poverty, single or adolescent parents, produce greater benefits.

- Programmes need to be delivered in a non-stigmatising way and in style that is acceptable to the families. Build programmes with community participation and collaborate with families and communities to ensure cultural relevance and programme sustainability. High risk families will benefit from lay workers and professionals working together, sharing the decision-making. Combine cultural and developmental sensitivity into intervention programmes.

- Programmes that adopt a systems or ecological perspective will address factors that influence family functioning in terms of their everyday contexts including linkages with the community, external services, and wider peer support.

- Multi-method interventions which combine multiple delivery formats such as books, added services, home visits and day centres, may enhance benefits rather than using a single method approach. No single approach will have all the answers. Understanding the level of risk of children and their parents, and developing shared understanding of goals is likely to be more important than any specific perspective.

- A positive relationship between parents and the programme implementers, based on mutual trust and respect, can instil a sense of control and worth in participant parents and address the needs of both the parent and the child.

- Ensure that intervention programmes are accessible to children and families, offer incentives such as meals or free transport and aim to reduce barriers to access such as flexible settings or hours.

- Provide staff training and support for programme providers. Service providers need to be sensitive to the cultural and social traditions of their community such as family structures, local neighbourhood attitudes, power relations, poverty and the politics of welfare services. There is some evidence that both professionals and lay workers can have positive outcomes and relative efficacy in terms of programme delivery.

- Conduct early intervention evaluation research to improve the programme quality and implementation. Carefully monitor and document activities during the

programme planning and implementation phases and collect process evaluation data so that more informed judgements can be made about which elements of programme implementation are contributing or detracting from the positive outcomes.

- Prepare for policy recommendations by incorporating accountability and cost analysis into intervention programmes.

- Several studies have been found to have sleeper effects, which suggest that a positive outcome will only become apparent at a later stage. Plan for longitudinal follow-up to capture positive intervention effects.

- Implement and evaluate programmes within the context of wider policy initiatives to tackle poverty and child health inequalities.

Section 2

Ensure a Positive Start in Life: School-based Mental Health Promotion and Prevention Programmes

Schools are one of the most important settings for promoting the mental health of young people. The school setting provides an opportunity to reach many young people during their formative years of cognitive, emotional and social development. The school environment is not only a place of learning, it is also an important source of friends, social networks and adult role models. As such, schools provide a socialising context that has a significant influence on the development of young people. Research shows that a child's emotional, social and psychological wellbeing influences their health education and social prospects across the lifecourse. Enhancing children's mental and physical health will improve their ability to learn and to achieve academically as well as their capacity to become responsible citizens and productive workers (Weissberg, Caplan and Harwood,1991; Zins et al., 2004; Payton et al., 2008).

Schools have an important function in nurturing children's social-emotional development as well as their academic and cognitive development. Elias et al. (1997) suggest that schools will be most successful when they integrate their educational mission with efforts to promote social and emotional learning of young people as well as academic learning. In their book on "Building Academic Success on Social and Emotional Learning", Zins et al. (2004) make a compelling case, based on existing theory and evidence, for linking social emotional learning to improved school attitudes, behaviour and performance. Lack of investment in mental health promotion in schools is likely to lead to significant costs for society as children who experience emotional and social problems are more likely, at some point, to misuse drugs and alcohol, have lower educational attainment, be untrained, unemployed or involved in crime. Effective mental health promotion in schools can prevent negative behaviours, which lead to costs for the health and social services and criminal justice system.

There is a long tradition of health education in schools in many countries. However, in more recent times, with the influence of the WHO Health Promoting Schools initiative (WHO, 1998), the emphasis has changed from a focus on curriculum and

knowledge-based approaches to more comprehensive programmes. As defined by the WHO, a health promoting school can be characterised as a school constantly strengthening its capacity as a healthy setting for living, learning and working (WHO, 1997). Components of the health promoting schools approach include: improving the school ethos and environment, curriculum approaches, and involving families and the local community. A systematic review of the effectiveness of the health promoting schools approach conducted by Lister-Sharp et al. (1999), found that while the available evidence was limited, it was nonetheless promising, particularly in relation to evidence of the positive impact on areas of emotional and social well-being such as self-esteem and bullying. A number of studies suggest that traditional topic based approaches to health education are of limited value and that the more successful programmes are those that involve parents and the wider community, strengthen school connectedness and address the ethos and culture of the school as a whole (Mentality, 2003). This is referred to as adopting a whole school approach (Weare, 2000).

These more comprehensive school programmes seek to promote generic life skills and supportive environments that foster positive youth development and a sense of connectedness with the family, community and broader social context of young people's lives (Rowling et al., 2002). The importance of the school as a setting for mental health promotion is reflected in the increasing number of programmes that successfully promote academic, social and emotional competence and significantly reduce school drop-out rates and a range of negative health and social outcomes (Jané-Llopis et al., 2005; Barry and Jenkins, 2007; Payton et al., 2008). In this section the findings from a range of approaches, including cognitive, social and emotional skills training, whole school approaches and selected and indicated prevention programmes, in the school setting will be reviewed.

Evidence of Effective School-based Interventions
There is substantial evidence that mental health promotion programmes in schools, when implemented effectively, can produce long-term benefits for young people, including emotional and social functioning and improved academic performance (Tilford, Delaney and Vogels 1997; Durlak and Wells, 1997; Lister-Sharp et al., 1999; Greenberg, Domitrovich and Bumbarger, 2001, Harden et al., 2001; Wells,

Barlow and Stewart-Brown, 2001, 2003; Payton et al., 2008). An overview of the evidence from systematic reviews highlights that comprehensive programmes that target multiple health outcomes in the context of a co-ordinated whole school approach are the most consistently effective strategy (Jané-Llopis et al., 2005). In a systematic review of universal approaches (i.e. provided to all children) to mental health promotion in schools, Wells, Barlow and Stewart-Brown (2003) found positive evidence of effectiveness from programmes that adopted a whole school approach, were implemented continuously for more than a year, and were aimed at the promotion of mental health as opposed to the prevention of mental disorder. They also concluded that long-term interventions promoting the positive mental health of all pupils and involving changes to the school environment are likely to be more successful that brief class-based prevention programmes. A number of high quality successful programmes have been developed and implemented in collaboration with families, schools and communities in order to produce long lasting positive mental health and social outcomes. Reviewers of the evidence recommend that an integrated approach, using universal and targeted interventions, is required to cater for the needs of all children in a school (Tilford et al., 1997; CASEL, 2003, NICE, 2008).

Approaches to Implementing School-based Programmes

There are a number of approaches or strategies for promoting mental health in the school setting. These may be divided into three groupings as follows:

1) Curriculum-based skills training – the teaching of life skills and social competencies that promote adjustment through delivering a specific curriculum in the classroom

2) A whole school approach - concerned with modifying the classroom and changing the school environment and ethos, including involving the parents and the community, in order to improve outcomes and provide a supportive context within the school

3) Selected and indicated interventions - interventions for students at higher risk aimed at strengthening their coping skills and reducing the risk of negative mental health outcomes, including suicide.

The evidence in relation to each of these different approaches will now be examined.

Box 2.1: Characteristics of programmes associated with effective outcomes identified by Green et al., (2005):

- aimed at the promotion of mental health rather than the prevention of mental health problems (Wells et al., 2001)

- implemented continuously and long-term in nature i.e. more than a year (Wells et al., 2001)

- includes changes to the school climate rather than brief class-based prevention programmes (Wells et al., 2001)

- go beyond the classroom and provided opportunities for applying the learned skill (CASEL, 2003)

- replicated positive behavioural implementations in different sites and sustained them over time (CASEL, 2003)

- adopted a health-promoting schools approach focusing on aspects of the social and physical environment of the school, family and community links with the school, the school curriculum and pupils' knowledge (Lister-Sharp et al., 1999)

- directed at school-aged children in high-risk groups to enhance coping skills and the development of social skills and good peer relationships (Hodgsdon et al., 1996).

- focused on improving self-esteem (Haney and Durlak, 1998), self-concept and coping skills as a general approach as well as those focusing on specific life events (Tilford et al., 1997).

Curriculum-based Skills Training

Skills training programmes are designed to teach and model such skills as effective communication, peer pressure resistance, assertiveness, problem-solving, relationship and coping skills. These classroom-based programmes usually involve methods of role-playing, rehearsal, modelling and peer instruction and can be applied to a range of social situations (Rhodes and Englund, 1993). While many of the early skills-based programmes were topic specific e.g. a focus on substance misuse, these programmes have been expanded to promote more general social competencies and

adopt a broad-based approach. The value of a social competence approach, which focuses on generic skills designed to increase resilience, promote self-esteem and enhance protective factors for health, is supported by the evidence (Tilford et al., 1997; Lister-Sharp et al., 1999; Adi et al., 2007; Payton et al., 2008).

A variety of classroom-based programmes have been evaluated including those that emphasise generic personal and social skills training.

- Research suggests that knowledge only programmes have minimal effects on young people's behaviour (Botvin and Tortu, 1988) and that programmes that teach generic broad-based competencies such as self-control, coping skills etc. produce significant positive outcomes (Elias et al., 1986; Shure and Spivack, 1988; Tilford et al., 1997).

- Research indicates that multiple years of classroom-based skills training may be required to produce long-term gains (Weisberg et al., 1991).

- Three large scale meta-analysis reviews of research on the impact of social and emotional learning (SEL) progammes on children in the US aged 5-13 years was conducted by Payton et al. (2008). These reviews confirm that SEL improves students' social-emotional skills, attitudes about self and others, connection to school, positive social behaviour and improve students' academic performance by 11-17 percentile points. SEL was also found to reduce students' conduct problems and emotional distress. SEL programmes were found to be effective in both school and after-school settings, for racially and ethnically diverse students, and for students with and without behavioural and emotional problems.

- A number of successful universal school-based programmes targeting all pupils, have employed cognitive skills training in promoting social and emotional competencies. These include the 'I Can Problem Solve' programme (Shure and Spivack, 1988) which improves problem solving abilities for 3-4 year olds, and the 'Improving Social Awareness-Social Problem Solving' (ISA-SPS) programme (Bruene-Butler et al., 1997) which leads to long-term improvements in coping with stressors and 'Zippy's Friends' (Mishara and Ystgaard, 2006) which promotes social and emotional competence and coping skills for 6-7 year olds. The 'Promoting Alternative

Thinking Strategies' (PATHS) also employs relatively intense cognitive skills training and leads to improved emotional understanding, reduced conduct problems and impulsivity (Greenberg et al., 1995; Greenberg, Domitrovich and Bumbarger, 2001). This programme, which has been evaluated using randomised controlled trials, has been replicated with a wide range of children in different school settings across the USA.

- Programmes such as the 'Resolving Conflict Creatively' programme (Aber et al., 1998) and the 'Good Behavior Game' (Kellam et al., 1994) have been found to lead to reduced levels of aggression in the classroom and improved interpersonal negotiating skills.

- Generic social competence programmes have also applied skills training to specific topics such as substance misuse. Examples include; the 'Positive Youth Development' programme (Caplan et al., 1992) and the 'Life Skills Training' programme (Botvin, Mihalic and Gropeter,1998; Botvin and Tortu, 1988), both of which apply generic self control and social skills to alcohol and drug use. The 'Life Skills Training' programme is designed for 12-14 year olds and evaluations indicate that it is a highly effective intervention leading to 50-70% reductions in alcohol, cigarette and marijuana intake, which are sustained through to end of secondary school (Botvin et al., 1998).

- Systematic reviews also point to some evidence for the effectiveness of peer-led approaches in schools (Lister-Sharp et al., 1999; Durlak and Wells, 1997). A number of skills training programmes have employed peer-led approaches where peers are involved in delivering the intervention. The 'Peer Coping Skills' training programme by Prinz et al. (1994) works with teams of six to nine year olds in modifying pro-social coping skills. This 22 week programme, which includes both aggressive and non-aggressive young people, has resulted in significant reductions in teacher-rated levels of aggression and improved pro-social coping skills.

- There is a growing evidence base on the value of mentoring programmes, which can be an effective way of enhancing positive youth development, especially for young people from disadvantaged backgrounds (DuBois, Holloway and Valentine, 2002). An example of a successful mentoring programme is the 'Big Brothers/Big Sisters of America', which has over 500

affiliate agencies throughout the United States (McGill 1998) and has been implemented in many countries including the UK. A one-to-one relationship is established between a matched pair of a volunteer adult and young person aged from 6-18 years of age. Evaluation of the 'Big Brothers/Big Sisters' programme has been found to lead to improved peer and family relationship, better school achievement and reduced substance use and aggression problems (Grossman and Tierney, 1998). A research briefing paper by Jekielek, Moore and Hair (2002) highlights that in order for mentoring programmes to produce positive outcomes they need to be structured, planned, supported by training, driven by the needs of the young people and based on sustained relationships of longer duration.

- Both peer-led and mentoring programmes can also be applied beyond the confines of the school and implemented in community-based settings, thereby linking in with other important contexts for youth development.

Whole School Approach

A whole school approach moves beyond a focus on the classroom curriculum to consider the broader aspects of the school setting, such as the organizational structures and social environment, which provide opportunities for promoting the mental health of young people. This approach adopts a more ecological perspective and aims to include all relevant stakeholders including pupils, teachers, school administrators, parents and community members in fostering a positive school environment, ethos and sense of connectedness for pupils and staff. The whole school approach brings attention to school policies, codes of conduct and values. e.g. in dealing with bullying, conflict resolution and issues of diversity. The concern with school ethos and environment focuses attention on the relationships between people in the school, and the opportunities for participation by pupils and parents. The quality of the physical environment of the school, class sizes and the provision of services is also taken into account. The focus on the development of partnerships with parents, community groups and services links the school with the broader social context and also ensures that there is access to services for students needing additional support.

Box 2.2: Critical features of the whole school approach (Weare, 2000)

- Positive staff-pupil relationships

- Staff development and education

- Strong leadership and clear disciplinary policies

- Teamwork

- Focus on skills, attitudes and values rather than facts and information

- Active involvement of parents, local community and key local agencies.

Effective Whole School Programmes

- Review evidence supports the effectiveness of universal mental health promotion programmes in schools, particularly programmes that take a whole school approach involving staff and students, the wider school environment and local community (Wells et al., 2003; Lister-Sharp et al., 1999).

- Evidence relating to programmes that adopt a truly 'whole school' approach is quite limited, but those that have been identified provide some indication of a positive impact with small to medium effect sizes being reported on outcome measures (Adi et al., 2007).

- Programmes implemented on a continuous basis over a longer period of time are more effective (Wells et al., 2003). There is reasonable evidence that long term programmes that cover social problem solving, social awarenss and emotional literacy, in which teachers reinforce such principles in all their interactions with children, can be effetive in the long term (Adi et al., 2007).

- Multi-component interventions that co-ordinate the multiple socialising influences of peers, parents, community and opinion leaders, may be needed to produce long-term sustainable gains. Perry et al. (1989) and Pentz et al., (1989) have demonstrated the effectiveness of multilevel, multi-component programmes that involve parents, peers, community leaders, the mass media and other influences as well as schools in promoting mental health and preventing substance misuse. An account of the multi-component community programme developed by Pentz et al. (1989) is provided in Barry and Jenkins (2007).

- A systematic review by Rachel et al. (2007) found that interventions employing a whole school approach are more likely to be effective in

decreasing bullying than curriculum only programmes. Reductions are more likley to be in relation to the numbers of children being bullied or victimised rathen than reductions in bullying others (Rigby, 2002). Rachel et al. (2007) also report some evidence to support mentoring and the involvement of social workers in schools. The significance of parental involvement has not been specifically evaluated in bullying prevention programmes.

- The Olweus Bullying Prevention Programme (Olweus et al., 1998) is a comprehensive whole school intervention designed to reduce bullying problems in primary and secondary schools. Multi-level components target the individual pupil, the classroom and the school as a whole. Evaluation of the programme's implementation in Norway (Olweus, 1997; Olweus et al., 1998) report more than 50% reduction in reports of bullying incidents and reductions in anti-social behaviours, theft and alochol use. There is some inconsistency, however, in findings on the success of the Olweus Bullying Prevention Programme outside of Norway as positive findings have not be replicated uniformly when implementned in other countries (e.g., Belgium, Canada, Germany, UK, US, Spain, and Switzerland). While some significant findings are reported from other countries, they are not as striking as the original Norwegian studies and some report results opposite to expected. These mixed findings raise the question of whether failure to repeat the initial set of strong findings is due to differences in the quality of implementation, modifications due to adaptation in different school/country settings, or is due to failure of the programme. This inconsistency in the evidence highlights the importance of good quality process evaluation which assesses the quantity and quality of progamme implementation and adoption.

- Programmes, such as the 'Child Development Project' (Battistich et al., 1996), focus on changing the learning environment by creating a 'caring community of learners'. This programme strengthens students' sense of community, which in turn fosters improved social and emotional learning and reduced problem behaviours. The 'School Transitional Environmental Project' (STEP) by Felner et al. (1988, 1993) restructures the school environment in modifying the stress of moving to a new school. A five year follow-up of this

programme reports better adjustment to school change, lower dropout rates and better school grades among participating students.

- Programmes such as the 'Linking the Interests of Families and Teachers' (Reid et al., 1999), the 'Seattle Social Development Project' (Hawkins, Von Cleve and Catalano, 1991) and 'Promoting Action Through Holistic Education' (Project PATHE by Gottfredson, 1990) have successfully involved parents and linked with the home environment in supporting the implementation of school programmes, including those focused on prosocial development and reducing aggressive behaviour.

- The Australian MindMatters programme draws on the health promoting schools framework in developing a comprehensive approach to mental health in schools (Wyn, Cahill, Holdsworth, et al 2000). This programme, which has been implemented on a country wide level in Australia, is based on the three key components of a health promoting school; 1) curriculum teaching and learning; 2) organization, ethos and environment; and 3) partnership and services. The MindMatters programme provides a guided and structured approach to implementing mental health promotion in schools, includes a range of innovative and high quality mental health materials, and the provision of extensive pre-service and in-service training and development resources fpr teachers.

- The Social and Emotional Aspects of Learning (SEAL) initiative is a comprehensive, whole school approach that is currently being used in more than 80% of primary schools and 20% of secondary schools across England. SEAL is designed to promote the social and emotional skills that underpin effective learning, positive behaviour, regular attendance, and emotional well-being in school pupils (Department for Education and Skills, 2005). There are three waves of this programme; i) SEAL centres on whole-school development work focusing on the ethos and climate within which skills can be taught; ii) involves small group interventions for children needing additional support, and iii) invovles 1:1 intervention with children at higher risk requiring targeted mental health interventions. SEAL was first implemented as part of the national Behaviour and Attendance Pilot in 2003 (Hallam, Rhamie and Shaw, 2006) which reported evidence of improvement

in attendance at school, behaviour while at school, and in academic attainment across schools participating in the pilot. The SEAL programme was found to demonstrate positive changes in the children's behaviour particularly in relation to social skills and relationships with other children. The small group work was found to be effective in supporting pupils with specific emotional and social needs. Further evaluation is needed to determine the longer term impacts of this programme.

- A review of five meta-analyses by Durlak and DuPre (2008) reports persuasive evidence of the powerful impact of implementation on outcomes. Mean effect sizes are at least two to three times higher when programmes are carefully implemented and free from serious implementation problems than when these circumstances are not present. Higher levels of implementation are associated with better outcomes, particualry when fidelity or dosage is assessed.

- A systematic review of the cost-effectiveness of whole school approaches by McCabe (2007) states that while there is currently no substantial evidence on cost effectiveness, indirect evidence suggests that interventions of this type are likely to have wide ranging and lasting effects on mental and physical health, socio-economic status and involvement in criminal behaviour.

Selected and Indicated Prevention Programmes

A number of school-based programmes have been designed for students who are at higher risk by virtue of their life circumstances or increased exposure to stress. Such programmes, which usually involve teacher training, health specialists and parent involvement, address the enhancement of coping skills and cognitive skills training in preventing the onset of problems such as anxiety, depression and suicide. The 'Coping with Stress Course' for 15-16 year olds, developed by Clarke et al. (1995), is an example of a cognitive mood management programme which aims to prevent the development of depression in students with elevated risk of clinical depression. The Penn Prevention programme (Jaycox et al., 1994), which includes cognitive and social problem-solving skills, has also been applied successfully with younger children, aged 10-13 years, with an elevated risk of depression. The Penn Resiliency programme (Gillham et al., 1995; Gillham and Reivich, 1999) also addresses

improved coping skills and cognitive thinking in children with symptoms of depression. This programme has been adapted across different sites, including in China (LeiYu, Seligman, 2002), and the positive outcomes have been sustained for up to two years post intervention.

Specific programmes for children of parents with alcohol problems such as the 'Students Together and Resourcefu'l programme (Emshoff, 1990) and the 'Children of Divorce Intervention Project' (Pedro-Carroll et al., 1999) have provided support and skill training in developing coping strategies, social skills and improved adjustment. The Resourceful Adolescent programme (Shochet et al., 2001) is a resilience building programme which has been implemented with 14-15 year olds in Australia. This programme includes both an adolescent version and a combined parents-adolescent version. Adolescents in both groups were found to have significantly lowered levels of depression and hopelessness at ten month follow-up compared to the comparison group.

Effective School-based Prevention Interventions

- Reviews suggest that selected and indicated programmes for reducing disruptive and aggressive behaviour in schools (Losel and Beelman, 2003;Wilson and Lipsey, 2007; Mytton et al., 2006) and programmes delivered by specialists, usually psychologists, rather than school teachers (Park-Higgerson et al., 2008), produce larger programme effects for children at relatively higher risk.

- A review by Adi et al. (2007) of universal violence prevention programmes found that multi-component interventions produce the most positive outcomes.

- Wilson and Lipsey (2007) report that students from high poverty and disadvantaged neighbourhoods achieve the greatest benefits from selected or indicated programmes in comparison to universal interventions (report effect sizes of 0.12 for universal programmes and 0.29 for selected/indicated programmes).

- A systematic review by Ttofi, Farrington and Baldry (2008) report that bullying and victimization are reduced by about 17-23% in school-based anti-bullying programmes, with duration and intensity of the programme related to better outcomes. The most important programme elements were found to be

parent training, improved playground supervision, disciplinary methods, school conferences, information for parents, classrooom management and rules, and use of videos.

- A review of some 32 RCTs of selective and indicated interventions for children aged 4-11 years by Shucksmith et al. (2007), reports evidence for the effectiveness of CBT-based programmes in reducing anxiety and depression in school settings, when undertaken by skilled therapists. They note an absence of long-term follow up in most studies.

- A systematic review of 30 RCTs examining depression prevention for children and adolescents found that both selective and indicated prevention programmes are more effective than universal programmes at follow up and there is no signficant difference in effectiveness of selected and indicated programmes (Horowitz and Garber, 2006).

- Multi-component prevention programmes that teach and integrate cognitive and social skills and training of teachers and parents in reinforcement and discipline, are more effective than those that focus on only one domain (Horowitz and Garber, 2006; Shucksmith et al., 2007).

- A systematic review of school-based curriculum suicide prevention programmes by Ploeg et al (1996, 1999) concluded that overall, there is insufficient evidence to support school-based curriculum suicide prevention programmes for adolescents.

- Guo and Harstall (2002) conclude that there is insufficient evidence to either support or not support these programmes due largely to poor quality evaluations.

- Studies by Overholser et al., (1989) and Spirito et al., (1988) reported a worsening of suicide-related attitudes, with increased levels of hopelessness and maladaptive coping responses among male students. Shaffer et al. (1991) also reported negative effects particularly for students who had previously attempted suicide. These findings have lead to concern that suicide prevention programmes can in fact be harmful to certain students (Lister-Sharp et al., 1999). While these negative findings have been limited to first generation studies, which have been less sophisticated in their design and content and also less rigorous in their evaluation methodology, the potential of negative

outcomes, particularly for vulnerable students, cautions against implementing these programmes and points to the need for significant training, back up and support.

- More comprehensive programmes, which include teacher training, parent education, stress management and life skills, together with the introduction of a crisis team in the school have achieved more positive outcomes, including significant reductions in both suicide and attempted suicide over a five year period (Zenere and Lazarus, 1997).

- More detailed evaluation is needed before topic specific suicide prevention programmes are to be recommended over good quality generic skills programmes in this area.

Implementation Issues:

- The implementation of school-based programmes is not without its challenges, as programmes are competing for time and space in an increasingly crowded school curriculum. Programmes promoting social and emotional learning need to be applied across the curriculum and incorporated into cross-curricular learning. There is a strong case for integrating these programme with more generic health promotion initiatives on substance misuse, sexual health, healthy eating and exercise interventions as many of their programme components are based on social and emotional skills development and they target a similar cluster of risk and protective factors (Ploeg et al., 1996).

- NICE Guidelines (2008) for primary schools recommend that a whole school approach promoting the social and emotional wellbeing of children be implemented in all schools in the context of SEAL and the Healthy Schools initiative (Department for Education and Skills, 2005). A curriculum that integrates the development of social and emotional skills within all subject areas, delivered by trained teachers and with support for parents, is recommended. The importance of responding to the needs of children from different socioeconomic, cultural and ethnic backgrounds and the distinct needs of children with a disability is emphasized. Also recommended are targeted approaches for children showing early signs of emotional and social difficulties and behavioural problems.

- Educational theories of learning suggest that learning is most effective when students are active participants in their own learning rather than the passive recipients of information delivered didactically. Teaching methodologies, which engage young people in experiential, activity-based learning, including the use of techniques such as role play, reflection and group discussion, are therefore encouraged. Elias et al. (1997) advocate that students derive more benefit from programmes which they help to design, plan and implement and where they have meaningful influence and participation in the process.

- Teachers may be hesitant about addressing mental health issues in the classroom and a high level of support and training may be required.

- Most of the evidence-based programmes have been developed under controlled research conditions. Ensuring effective implementation of interventions across a variety of school settings is an important challenge. A variety of contextual factors such as leadership, the school organization and management, teacher training and support, have been found to influence both the level and quality of programme implementation (Greenberg et al., 2001; Durlak and DuPre, 2008).

- The school management, principal and staff need to be aware of the importance of mental health and be convinced of the value of the intervention for their school and the students.

- Findings from the SEAL evaluation (Hallam et al., 2006) indicate that the programme was most likely to be implemented successfully where the school leadership were committed to it, where time had been set aside for staff training, where staff valued its principles, and where there was sufficient preparation time.

- In addition to school-based interventions there is a recognised need for complementary interventions, which involve family members, local communities as well as a broad range of health and welfare services. The school can be an important link in ensuring awareness of, and access to, appropriate sources of support and professional help for young people when needed. Linkage between schools and outside agencies is an important feature of the health promoting schools initiative and the development of a partnership

approach, with better integration of the health services with the everyday life of the school, is encouraged.

Gaps in the Evidence:

- There has been comparatively little research on mental health promotion and prevention in schools in the UK. In the Wells et al. (2003) review, all of the studies included originated from the US. In Shucksmith et al.'s (2007) review of targeted approaches, the vast majority of the studies were US-based. In view of this, the transferability of programmes across education systems, cultures and structures needs to be determined.

- There is a need for well designed high quality studies in the UK, with longitudinal designs to assess the impact of both whole-school and targeted approaches.

- Weare and Gray (2003) call for a greater focus on mental health promotion programmes secondary schools in the UK, as the evidence shows that there is a lack of work on emotional and social competence at second level.

- More studies are also required that will systematically assess the quality of implementation across sites, including information on the school's context and conditions of implementation. The level and quality of implementation in school programmes is directly and indirectly related to the quality of the outcomes obtained (Durlak, 1998; Durlak & DuPre, 2008).

- Research studies need to determine what programme characteristics contribute to specific outcomes, and the differential benefits for various student groups and how programmes can be adapted to meet the needs of these groups.

- There is a need to determine what is the most effective and cost-effective way to improve the emotional and social well-being of school children, in particular, vulnerable school children, children from black and minority groups and looked afer children.

- There is a lack of information on the impact of school interventions on children with special needs and children with disability.

- More research is needed to determine the relationship between academic performance and mental health promotion and prevention interventions in

schools. Good quality evidence of such a link is likely to be more convincing for the educational sector.

- Appropriate economic evaluations of school-based programmes are lacking, including those that analyse the relative costs and benefits of the different types of school mental health promotion and prevention programmes (universal, indicated, selected etc.).

- There is a need to determine the relative effectiveness of gender and culturally sensistive programmes and programmes designed to enhance the family environment.

- There is a lack of evaluation studies assesing the impact of parental involvement in school interventions, especially the most effective ways of involving parents from disadvantaged backgrounds.

- Research is needed on how to improve student participation, and the most effective ways of involving children in the development, implementation and evaluation of school-based programmes.

- Evidence suggests that teachers cannot effectively deliver social and emotional wellbeing interventions if their own emotional and social needs are not met (Weare and Gray, 2003). A greater focus on pre-service and in-service training and professional development for teachers in the area of social and emotional learning is required.

Conclusions

This review of the evidence indicates that there is a substantial body of international evidence on the effectiveness of mental health promotion and prevention programmes in schools, which have been shown to lead to long-term benefits for young people, including social and emotional development, improved academic performance and general health and social functioning. Comprehensive programmes that target multiple health outcomes in the context of a co-ordinated whole school approach appear to hold the greatest promise. While there is much to learn about how best to implement and support the effective implementation of school based mental health promotion and prevention programmes, the current evidence clearly demonstrates their value in promoting the mental health and well-being of young people. Based on

the research evidence, the following characteristics of successful school-based interventions are identified:

- Programmes adopting a whole school approach, which embrace changes to the school environment as well as the curriculum and involve parents, families and the local community, are more likely to be effective.

- The health promoting school initiative provides a useful framework for strengthening the school's capacity as a mental health promoting setting for living, learning and working. This requires a comprehensive approach with the use of co-ordinated and multiple strategies aiming to bring about change at the level of the individual, the classroom and the school.

- Traditional topic specific approaches are recognised as being of limited value.

- Comprehensive programmes that target multiple protective and risk factors have greater potential to endure in school settings than have discrete, short-term interventions that target single, topic-specific issues.

- Reviews of the evidence endorse a social competence approach, which brings a focus on the promotion of resourcefulness and generic coping and competence skills, rather than interventions focusing on the prevention of specific problem behaviours such as suicide.

- Research supports the use of interactive methodologies that embrace a more participatory approach for students. Effective programmes include opportunities to reinforce the application of learning and skills throughout a range of social contexts beyond the classroom i.e. in the home, youth centres and other community-based settings.

- Peer-led approaches and mentoring programmes are recognised as potentially useful approaches.

- Programmes need to be grounded on sound theories of child development and learning. Interventions guided by a strong theoretical base have been found to lead to improved outcomes (Harden et al., 2001; Jané-Llopis and Barry, 2005; Zins et al., 2004).

- It is increasingly recognised that once-off or short-term interventions are not likely to produce long-term effects (Greenberg et al., 2001). Therefore,

sustained interventions over multiple years are more likely to produce long lasting positive outcomes (Wells et al., 2001).

- High quality implementation is needed for positive outcomes. The level and quality of programme planning and delivery is influenced by contextual factors in the school setting and the presence of a supportive implementation system. This includes the level of engagement and co-operation from students, teachers and parents; support from the school organization and management; teacher training and provision of support resources; quality of materials; and the overall readiness of the school to implement the programme.

- Teacher training in the skills and confidence needed for effective programme delivery is highlighted as being critical to programme success.

- The incorporation of systematic evaluation methods contributes to the ongoing improvement and sustainability of school-based mental promotion and prevention programmes. The multifaceted nature of the majority of school programmes calls for research approaches that take into account the contextual and dynamic nature of the school as a setting (Rowling, 2002).

- The assessment of the quality and quantity of implementation is an absolute necessity in programme evalautions (Durlak and DuPre, 2008). Data on implementation is critical to determining precisely what programme elements were conducted and how outcome data should be interpreted.

- The sustainability of successful programmes is dependent on their successful adaptation to the ecology of the school and community in which they occur (Price and Lorion, 1989). It is important to identify the organizational and system-level practices and policies that will ensure the sustainability of high quality programmes.

Section 3

Promote Meaning and Purpose: Workplace Mental Health Promotion and Prevention Programmes

The importance of work in terms of role fulfillment, self identify, sense of purpose and participation in society is well recognised. Mental health promotion in the workplace has a wide range of health, social and economic benefits. The promotion of employee well-being leads to greater work and life satisfaction, reduced work stress with resultant increases in the productivity and profitability of oraganizations (Pfeffer, 1998). The impact of mental health problems in the workplace has serious consequences not only for the individual employee and his/her family but also for the productivity of the organization. The UK Department of Health and the Confederation of British Industry have estimated that 15-30% of workers experience some form of mental health problem in their working lives. One in five workers are estimated to have some type of mental health problem at any given time, with depressive disorders being one of the most common. Unrecognised mental health problems at work, such as job related stress, depression and anxiety, contribute to reduced productivity, low job satisfaction, absence from work and increased health care costs. Transition periods such as entering work, going back to work, unemployment and retirement may lead to mental health problems if people are not given sufficient support. This section examines the effectiveness of mental health promotion and prevention interventions in the workplace and considers the role of the workplace in promoting good mental health.

Traditionally many workplace health initiatives have placed more emphasis on physical health and safety issues in the workplace than on mental health. The promotion of mental health is relevant to many aspects of employment including health safety, equal opportunities, bullying and harassment and work-life balance initiatives (Mentality, 2003). However, few health and safety policies in the workplace have explicitly addressed mental health issues such as the impact of work stress and the prevention of mental health problems such as depression. Occupational health services and the provision of employee assistance programmes, have an important role to play in supporting mental health promoting initiatives.

Traditionally, employee assistance programmes (EAPs) were established to assist employees with alcohol and drug addiction problems, however, they have broadened their scope to also include personal and work related difficulties. EAP services may include on-site and telephone counseling or referrals to appropriate agencies for additional support.

Box 3.1: The WHO report on "Mental Health and Work: Impact, issues and good practices" (2000), identifies three main issues that employers need to address in promoting the mental health needs of their employees:

- Recognition and awareness of mental health as a legitimate concern of organizations. As disability and absenteeism costs increase in the workplace, employers are faced with the challenge of developing policies and effective strategies to address these issues.

- Effective implementation of workplace policies and anti-discrimination provisions. This requires that human resource managers appreciate the full implications of existing legislation and the enforcement of anti-discrimination legislation regarding the employment of people with mental health problems.

- Understanding the need for early intervention and assistance programmes to meet employees' mental health needs, as well as reintegrating employees back into the work environment.

Policy and Legislation

Policy and legislation play an important role in supporting workplace health promotion initiatives.

- Policy initiatives such as the 1989 EU Framework Directive on Health and Safety (89/391/EEC) recommends a holistic approach towards health promotion at work, encompassing both the psychological and physical health aspects of occupational health and safety policy. The directive makes it mandatory for organizations with the EU member states to assess the health and safety risks to its workers and employers are obliged to provide protective and preventive services, full information on health and safety issues and consultation and participation rights to workers on matters affecting workplace

health and safety. However, the assessment of psychosocial factors relating to health has not received the same attention as traditional physical hazards. There are skills and training deficiencies in undertaking risk assessments on the psychosocial factors pertaining to health and a need for the provision of more comprehensive and professional training for labour and factory inspectors in this regard.

- The 2001 European Council conclusions on combating stress and depression (Official Journal of the European Community 2002/C6/01) and the Communication on Health and Safety at Work (Commission of the European Communities 2002), emphasise the importance of good working conditions, social relations and the promotion of well-being at work. In addition, regulatory policies in relation to sexual harassment, bullying and discrimination in the workplace, when implemented effectively, can impact positively on mental health.

- There is a paucity of published studies of evaluations of workplace mental health policies, either in the UK or internationally (Seymour and Grove, 2005).

Effectiveness of Workplace Mental Health Promotion Interventions

The creation of healthy workplaces entails more than providing a safe working environment. A healthy workplace involves creating an environment that is supportive of the psychosocial aspects of work, recognizing the potential of the work place to promote workers' mental health and reduce the negative impacts of work-related stress. Many of the factors that influence the positive health and well-being of workers relate to the social environment at work, such as the style of management, working culture and levels of social support, as well as job security. The Whitehall II study reported that low job control, high job demand, low social support at work and a combination of high effort and low rewards were all associated with poor physical and mental health (Stansfeld et al., 1999). In particular, psychological demands, work overload, low social support and an imbalance in effort and reward were found to be associated with an increased risk of mental disorder in both men and women. An empirical review of the evidence on work factors associated with negative mental health and absenteeism (Michie and Williams, 2003) found the key factors to be:

- Long hours worked, work overload and pressure

- The effects of these on personal lives

- Lack of control over work and lack of participation in decision making

- Poor social support

- Unclear management and work role and poor management style.

Reviews of the evidence (Williams et al., 1998; Mentality 2003) suggest that an effective workplace health improvement policy should include:

- promoting the mental health and well-being of all staff

- offering support and assistance to workers experiencing mental health problems in the workplace

- adopting a positive approach to employing workers with a history of mental health problems.

Each of these aspects of mental health promotion in the workplace will now be addressed and details of intervention programmes examined.

Interventions addressing Stress in the Workplace

Occupational stress is one of the most common work related problems in EU countries (WHO, 2000) and can cause poor physical and mental health and lead to increased rates of work-related injuries and accidents. In Europe, 28% of employees report stress at work (WHO, 2000), while the Confederation of British Industry reported stress as the second highest cause of absenteeism among nonmanual workers in the UK (Giga et al., 2003). Mackay et al. (2004) estimate that the cost to society of work-related stress is more than double the figure of £3.8 billion originally reported by the Health and Safety Executive in 1999. Occupational stress is of increasing importance due to structural changes in the working environment. Globalization of the world economy has impacted on job restructuring, more contract work, greater workload demands and higher job insecurity. Employees are faced with greater demands, which contribute to higher stress levels and adverse health outcomes (Tennant, 2001).

Stressors at work increase the risk of anxiety, depression and burn-out (Jané-Llopis and Anderson, 2005). The mental health impacts are significant because mental health

problems occur frequently and they often go unrecognised and untreated. In reviewing the occupational stress literature, Tennant (2001) reports that specific acute work-related stressful experiences contribute to depression and that enduring structural occupational factors can also contribute to psychological disorders such as burn out and alcohol abuse.

Box 3.2: Elkin and Rosch (1990) summarise a range of possible strategies to reduce workplace stressors:

- Redesign the task

- Redesign the work environment

- Establish flexible work schedules

- Encourage participative management

- Include the employee in career development

- Analyse work roles and establish goals

- Provide social support and feedback

- Build cohesive teams

- Establish fair employment policies

- Share the rewards

Individual Focused Approaches

Strategies to deal with work stress may be directed at the individual employee or may be focused on the organizational characteristics of the workplace. The individual employee focused interventions tend to be directed at enhancing coping capacity usually through the use of stress management training. These interventions include cognitive-behavioual approaches such as stress inoculation training, relaxation techniques, social skills training, social support, training in time management and encouraging staff to enhance the balance between work and home life.   By training effective coping skills before stress exposure, the objective is to prepare the individual to respond more favourably to negative stress event and reduce the psychological impact.

- The evidence is somewhat mixed on the effectiveness of individual approaches in reducing negative mental health outcomes in the workplace (Murphy, 1996; Van der Klink, Blonk, Schene et al., 2001). Evidence on

individual stress management approaches suggest that while they can temporarily reduce experienced stress, their long-term effects remain unclear.

- Lifestyle and health promotion interventions such as physical exercise appear to be effective in reducing anxiety, depression and psychosomatic distress, but do not necessarily alter the link between the stressor and the experience of psychological strain (Cooper and Cartwright, 1997). As a result, it is difficult to sustain the benefits of such programmes if the work environment or source of the stress remains unchanged.

- In general, stress management approaches that focus on changing the individual's capacity to deal with stress without changing the source of the stress, are of limited effectiveness.

Organizational Approaches

Organizational approaches refer to interventions that change work organization and environmental features in an effort to reduce work-related stress. Organizational interventions can include many types, ranging from structural changes such as staffing levels, work schedules, job structure, physical environment to psychosocial changes such as social support, increased participation and control over work, management style and culture. Many work reorganization interventions have focused on promoting well-being by enhancing job control, enhancing choice in one's work and a sense of autonomy. Job control has been found to be a significant mediator of change in work re-organization interventions for stress reduction (Bond and Bunce, 2001). In organizational downsizing for example, it is suggested that the effects on the worker can be reduced if individual control, clarity and participation in the process is facilitated (Parker, Chimel and Wall, 1997). Lack of job control is associated with alcohol dependence, poor mental and physical health, while increasing control has been found to reduce sickness absence (Stansfeld et al., 2000). Social support at work is protective of the negative impact of job demands and can have a significant effect on workers' health and well-being (Stansfeld et al., 2000). For both men and women, high job demands and low social support at work have been found to be predictive of depression (Pattani et al., 2001).

Both the control-demand model of work related stress (Karasek, 1990; Karasek and Theorell, 1990) and the model of effort-reward imbalance (Siegrist et al., 1986;

Siegrist, 1996) provide useful frameworks for interventions at work. The control-demand model has also been extended to include social support at work as an important predictor of job strain. The models highlight the importance of structural factors such as the influence of macroeconomic labour market conditions and employment policies, and addresses more directly issues of salaries, career opportunities and job security (Marmot, Siegrist, Theorell and Feeney, 1999). The model may be applied to a range of occupational settings, especially to groups of workers experiencing segmentation of the labour market, structural unemployment, occupational mobility, underemployment and rapid socio-economic change. Policy initiatives, legislation and regulatory mechanisms are required to safeguard the rights of workers against the negative impact of effort-reward imbalance, especially among vulnerable groups of workers such as migrant and contract workers.

Evidence of Effective Interventions

- Organizational wide approaches are regarded as most effective and should include support for staff, enhanced job control, increased staff involvement, workload assessment, effort/reward balance, role clarity and policies to tackle bullying and harassment (Williams et al., 1998; Stansfeld, Head and Marmot, 2000).

- A review by Michie and Williams (2003) indicates that effective interventions that improved psychological health and levels of sickness absence used training and organisational approaches to increase participation in decision-making and problem solving, increase support and feedback, and improve communication.

- Graveling et al.'s (2008) review concludes that there is currently insufficient evidence of quality to judge the effectiveness of the use of organsational participatory interventions in the workplace to improve mental well-being.

- Bambra et al. (2007) report that while organisational level interventions to increase employee control reduce anxiety and depression they may not protect employees from poor working conditions.

- A systematic review by Bambra et al. (2007) suggests that micro-level interventions that change the psychosocial work environment (e.g. changes to task variety, increased teamworking, autonomous work groups) affect health

in the directions predicted by the demand-control-support model. Increasing the level of control appears to be the most important factor leading to significant changes in self-reported mental and physical health. The interventions that tended to have more positive psychosocial and health effects were those in which the macro-enviroment was also more supportive of employee control and participation.

Stress Management Interventions

- Meta-analyses by Van der Klink et al (2001) and Richardson and Rothstein (2008) examined the effectiveness of different types of stress mangement interventions in a range of occupational settings. The studies report medium to large effect sizes in terms of the overall impact of SMIs, indicating that they are worthwhile. Cognitive-behavioural programmes were found to consistently produce the largest effects in comparison to other approahces. The reviews found a scarcity of organizational level interventions and little evidence of their effectiveness.

- A review by Giga et al. (2003) of UK based studies assessing the impact of stress management interventions found that while individual level programmes tended to result in short term psychological benefits, the combination of both individual and organisational level interventions are more likley to lead to improvements in both employee health and business performance. They also report that the majority of effectivenss studies reviewed were targeted at the individual level and relatively few at the organizational level, and there is generally a lack of long-term follow up.

- Graveling et al. (2008) found some evidence that psychosocial interventions can have a positive impact on anxiety and depressive symptoms and burnout in the short term, though the longer-term impact is unknown.

- There is some evidence from a large-scale RCT of the role of social support in protecting mental health in the workplace and reducing the negative impact of stressful working environment. The Caregiver Support Program (Heaney et al., 1995) is an intervention aimed at increasing exchanges of social support and participation in work related decision making for caregiver teams in health and mental health care facilities. This programme has been found to have a

positive effect on the mental health of caregivers, especially those at most risk of leaving their jobs. The intervention which aimed to increase the ability of caregivers to mobilise socially supportive behaviour and problem-solving techniques, was found to lead to increased coping resources and improved levels of supervisory support, enhanced the mental health, social interactions and job satisfaction of participants, lead to a better working climate and improved handling of work disagreements and overload. This programme demonstrates that an approach emphasising the enhancement of social support and participation in decision making can be effective in promoting employee mentla health and well-being and can have a positive effect on existing working relationships.

Interventions Addressing Common Mental Health Problems in the Workplace

- A review by Seymour and Grove (2005) supports a range of individually focused approaches to managing mental health problems at work in either at risk populations or for employees already showing signs of mental health problems. They point to an absence of large scale RCT's and well designed qualitative studies and a very limited UK evidence base. There is a lack of information on disadvantaged workers. They found no published studies of evaluations of workplace mental health policies, either in the UK or internationally.

- Lelliott et al. (2008) review reports that stress management may improve employees' ability to cope with stress or to avoid stressful situations but there is no evidence for reduction of common mental health problems or reduction of sickness absence. Brief individual therapy, mainly CBT (by therapist and computer-based), up to 8 weeks in duration may be beneficial.

- Hill et al. (2007) found some evidence for the effectivenss of CBT and mulit-modal approaches in reducing psychological ill-health, however, the evidence was more mixed in relation to organisational interventions. They report a lack of focus on the role of organisations and a lack of process evaluation.

- Wang et al. (2006, 2007), in a review of US studies of workplace screening for depression followed by telephone based outreach and case management, report positive impacts on both clinical and work productivity outcomes.

Findings show reduced depression levels up to 12 months post intervention and higher rates of job retention and more hours worked. These findings sugggest economic benefits from such interventions, however, further study is needed to determine the cost-benefit ratio.

- Underwood et al. (2007) report evidence that mental health interventions can improve the employment status of people with common mental health problems, especially for those already employed. The evaluations of employment interventions tend to be less robust and did not produce conclusive evidence.

Workplace Interventions for People with Severe Mental Problems

- Evidence reviews suggest that Supported Employment, in particular specialist work schemes such as Individual Placement Support programmes, have a stronger effect on employment outcomes than pre-vocational training (Crowther et al., 2001; Twamely et al., 2003; Lelliott et al. 2008).

- Studies to date have not identified the client characteristics that predict who benefits most from models used in supported employment (Bond et al., 1997).

- The evidence is not conclusive in relation to the impact of vocational programmes on non-vocational outcomes such as self esteem and quality of life (Dickinson and Gough, 2008).

- Johnsen et al. (2005) reviewing the evidence from multiple RCTs report consistent findings that the Clubhouse Model is an effective intervention in reducing the rates of hospitalisation and lengths of stay of participating members and impacts positively on increased quality of life. The Clubhouse Model is a facility-based intervention designed to offer people with a serious mental disorder support and services with the goal of returning to the workplace as productive employees. The model has been replicated successfully in many countries, including the UK, and has developed its own set of standards, training proceses and well as evidence base. Some supporting evidence was also found for a positive impact on employment outcomes and social relationships and inclusion. Review of outreach support services indicate that this element appears to delay and reduce hospitalisation rates. The review raises the question of whether it is more appropriate to speak of

evidence for the model as a whole or evidence from specific programmes or elements within the model. It would appear that evidence for the relative effectiveness of different approaches or practices employed within the model could be usefully tested and examined. The Clubhouse costs were analysed using data from 12 Clubhouses in 12 countries (McKay, 2005). The mean cost per person per Clubhouse visit is reported as $27.12 and the annual cost per member is $3230. These costs need to be considered against the likely economic benefits arising from the programme in terms of reduced hospitalistion and treament tcosts and contributions from taxable income.

Implementation Issues:
- Promoting employees' well-being and mental health requires change at the individual and organizational levels. Many interventions have focused on individual change without consideration of the broader organizational context.
- A comprehensive ecological approach is needed for interventions to be successful and requires multiple interventions aimed at different levels of practice, such as the individual, work group, department and the organization as a whole (Israel et al., 1996).
- Management tend to have a preference for supporting individual-level interventions rather than addressing issues concerning power and organizational change (Kjell Nytro et al., 2000). However, it is now clearly recognised in workplace health promotion practice that there is a need for comprehensive interventions that will target individual and organizational issues in the workplace and recognize the need for organizational and social change to reduce stressors that are beyond the individual's control.
- In determining the need for mental health promotion interventions at work, a more comprehensive approach to, and training for, undertaking risk assessments on the psychosocial factors affecting health at work is needed.
- A comprehensive policy of mental health at work includes addressing the mental health of the organization itself as well as that of the individual employees (WHO, 2000). The gain to both individuals and the organization is reflected in reduced absenteeism, improved well-being and productivity.

- Interventions for which evidence of effectiveness exists should be piloted and evaluated across work settings using randomized or longitudinal designs.
- Policy interventions such as the EU directive on participation at work, which aims to increase job control and autonomy, should remain as a priority for public mental health policy.

The following key factors for the successful implementation of workplace interventions are identified by Kjell Nytro et al. (2000):
- Integrate interventions into the organization by including unions, interaction with other ongoing projects, establishing communication structures and implementation plans.
- Opportunities for multi-level participation and negotiation in the design of interventions – take into account the perspectives of different stakeholders in an organization –and engage the co-operation of employees, unions, management with the management's leadership style being an important predictor of success.
- In the process of change, employees should be encourage to act as change agents and be assisted in removing the sources of excessive stress.
- Intervention programmes provide an opportunity to educate managers and employers about the contributors to stress in the workplace for all involved and to consider the importance of power and organization change in effective stress reduction.
- Assess the context and readiness of an organization to participate.
- Identify and make visible the needs and incentives for change in an organization and provide time for stakeholders to reflect on positive and negative outcomes.
- Garner commitment to the intervention by sharing information regarding development and implementation of the programme
- Define roles and responsibilities before and during the intervention, such as the roles of expert, advocate, enabler and the change facilitator (Grossman and Scala, 1993).
- Communication and trust – if positive change is to occur it is vital that here is ongoing communication between all involved, that trust is established and

fostered and that lessons are learned from successful and unsuccessful interventions.

- Create a social climate of learning from failure as well as success. While there is a tendency to learn from success, growth in an organization can also be facilitated by prevention of repeated mistakes and it is therefore, recommended to document failures so that future change projects can benefit from the past.

- Social support plays a critical role in protecting mental health in the workplace and reducing the negative impact of a stressful working environment.

Gaps in the Evidence:

- The evidence base on workplace mental health promotion and prevention is only partial and many studies suffer from poor quality implementation of interventions and the use of varied outcomes measures.

- There is a need for controlled prospective studies in this area.

- There is a paucity of studies that assess organizational level approaches and organizational level outcomes. The majority of studies evaluate individual-level interventions and tend to focus on psychological outcomes only.

- Comparison of different interventions on similar outcomes would yield clearer results regarding the relative effectiveness of different approaches.

- In general little is known about the long-term effects of workplace interventions.

- Interventions focus mainly on staff training and there is a need for more evaluation of changes in employment practices and mangement style and the inclusion of economic evaluations (Michie and Williams, 2003).

- Studies are hampered by relatively poor adherence to intervention regimes, particularly with organizational level approaches, and many of the authors comment on the poor quality of implementation with lack of management commitment being frequently cited as a specific problem.

- Most programmes are multifactorial and the individual elements have not been separately examined.

- More research is needed on the cost-benefit analysis of interventions in this area.

Conclusions

While there is a good body of research identifying the key factors that influence mental health in the workplace, there is a lack of good quality evidence of the comparative costs and benefits of interventions designed to address these issues. Acknowledging that the evidence base needs to be strengthened, it can be concluded from the current evidence that a comprehensive and integrated approach to mental health promotion and prevention within the workplace, which combines both individual and organizational level interventions, will be more likely to be effective in improving and maintaining mental health at work. Effective workplace interventions address the physical, environmental and psychosocial factors influencing mental health, they strengthen modifying factors such as social support, control over decision-making and effort-reward balance, and provide skills and competences for addressing short-term and long-term responses to work related stress. The following generic principles of good practice for workplace mental health promotion are identified by Barry and Jenkins (2007):

- Workplace policy and legislation have an important role in supporting mental health promotion interventions. Integrate the principles of Health and Safety and policies for handling bullying, harassment and violence at work into the company ethos by establishing company policies.

- Comprehensive theory-based programmes will inform the development of a comprehensive ecological approach combining individual and organizational issues in addressing the complex relationships between work, stress and health.

- Put in place management and environmental structures that support good communication and social support among staff.

- Promote good mental well-being by designing work processes and workplaces that promote and protect both the physical and mental health of employees.

- Manage change and reduce feelings of job insecurity and fear of the future by encouraging transparent organizational processes, which engage employees' in decision-making and as active partners in the change process.

- Tailor intervention programmes to the needs of the particular worksite by assessing the needs and resources within the organization in relation to different types of stressors, modifying factors and responses.

- Adopt a participatory approach by involving participants at each stage of programme planning, implementation and evaluation. It is important to take account of the viewpoints of different stakeholders in the organization in designing an intervention. Incorporate a joint employee, union and management committee as a key component of interventions with the role of top management and union representatives being crucial in ensuring that all participate (Israel, et al., 1996).

- Establish an organizational infrastructure as comprehensive interventions require a mechanism for integrating the change process at the different systems levels. This may involve setting up a steering group or some other organizing structure within the workplace to initiate organizational change. Such a structure needs to foster open communication and shared decision making and clarify key roles and responsibilities for participant members. Different interventions require different roles, with each role requiring different skills e.g. the role of expert, advocate, enabler and the change facilitator. Clarification of structures, roles and responsibilities is critical to good intervention planning and delivery.

- Monitor and evaluate the implementation and effectiveness of workplace interventions particularly with regard to their cost-benefit. Document programme impact in terms of indicators of employee well-being, reduced stress, absenteeism, and improved productivity and job satisfaction.

- Sustaining programmes in the long-term requires the support of senior management so that ideally, they become an integral part of the organizational culture. Programmes that are of longer duration and are tailor-made for specific employee groups tend to be more effective.

Section 4

Promoting Mental Health through Building A Resilient Safe, Secure Base

Interventions concerned with enhancing individual resilience and building a secure psychosocial base in families and schools for the development of positive mental health and well-being have already been discussed in sections 1 and 2. This section addresses the socio-environmental influences on mental health. Environmental, physical and ecological effects have a significant effect on health (Chu et al., 2004; Brunner and Marmot, 1999). There is an emerging evidence base on the influence of environmental factors on mental health and some key findings are outlined below. However, the evidence base on effective interventions in this area is limited and needs further development.

- Access to open spaces, and the quality of the built environment, have a beneficial impact on mental health (Dalgard and Tambs, 1997; Ellaway et al., 2001; Weich et al., 2002; Whitley et al., 2005).

- There is a growing body of literature on the relationship between health and place and studies indicate that the perception of problems in the neighbourhood, such as crime and violence, is associated with greater anxiety, stress and depression (Ellaway et al., 2001; Gary et al., 2007).

- Neighbourhood disorder, mistrust and powerlessness have negative impacts on mental health and serve to amplify a sense of hopelessness and alienation, which are risk factors for suicidal behaviour (Friedli, 2009).

- Supportive social relationships and social engagement serve to protect and enhance mental health and have an important role in maintaining resilience in the face of adversity (Friedli, 2009).

- The extent to which positive social relationships can offset the effects of material deprivation, however, is unclear. Mohan et al. (2004) and Morgan & Swann (2004) argue that social support and social participation may not mediate the effects of material deprivation.

- In a systematic review of the evidence on social capital and mental ill-health, De Silva et al. (2005) conclude that, while there is strong support for an

association at the individual level, there is less evidence in relation to ecological studies.

- Studies have identified deprived localities and communities that appear to be resilient in the face of adversity, however, the findings show that while the effects of economic disadvantage on health in resilient communities is lessened, they are not entirely removed (Friedli, 2009).

Addressing the structural determinants of mental health entails reducing structural barriers to mental health through initiatives to reduce poverty, discrimination and inequalities and to promote access to education, meaningful employment and housing, as well as services and support for those who are most vulnerable.

- Poor mental health may be seen to both reflect socioeconomic deprivation and to contribute to it (Social Exclusion Unit, 2004; Melzer et al., 2004; Rogers and Pilgrim, 2005).
- Poor mental health is consistently associated with unemployment, less education, low income or material standard of living, in addition to poor physical health and adverse life events (Fryers et al., 2003; Melzer et al., 2004; Patel, 2005; Petticrew et al., 2005; Pickett et al., 2006).
- The experience of racial harassment and perceptions of racial discrimination have also been found to contribute to poor mental health outcomes (Chakraborty and McKenzie, 2002; Aspinall and Jacobson, 2004).
- Recent studies show that higher national levels of income inequality are linked to a higher prevalence of mental illness (Pickett et al., 2006). The experience of inequality is corrosive of good social relations and impacts negatively on people's mental health and their sense of emotional and social wellbeing.
- The Commission on the Social Determinants of Health (WHO, 2008) draws together a considerable body of research on the impact of daily living conditions on our health, and in particular, the inequitable distribution of power, money, and resources, which act as structural drivers of inequality. Friedli (2009) argues that mental health is directly and indirectly related at every level to human responses to inequalities, influencing people's sense of agency, self-esteem, efficacy and connectedness, and their ability to deal with chronic stress and adversity.

The available evidence suggests that higher levels of education, improved standards of living, freedom from discrimination, fewer adverse life events and supportive physical and psychosocial environments enhance positive mental health. An integrated policy approach is required to address these structural factors and underscores the need for cross-sectoral policy development and implementation.

Urban Regeneration Programmes

Urban regeneration projects, which address the psychosocial aspects of deprivation, may have a significant mental health impact.

- A systematic review by Thomson, Petticrew and Morrison (2001) reports evidence that improving housing can lead to consistently positive mental health impacts.
- A large prospective controlled trial by Thomson, Petticrew and Douglas (2003) has shown that housing improvements can reduce anxiety, depression, and self-reported mental health problems.
- Thomson, Atkinson, Petticrew & Kearns (2006) conducted a synthesis of the evidence from UK policy and practice (1980 -2004) on whether urban regeneration programmes improve public health and reduce health inequalities All nine national ABIs (area based initiatives or national programmes of urban regeneration) were included. The review identified 19 evaluations that assessed health and social impacts and data from 10 studies were synthesised. Small positive health impacts were reported but adverse health impacts were also found. Three evaluations reported health impacts; two evaluations reported overall reductions in mortality rates, while in one evaluation, which surveyed the same residents before and after the programme, three of four measures of self reported health deteriorated, typically by around 4%. Most socioeconomic outcomes assessed (e.g. housing, education, training, income, employment, impacts on crime and neighbourhood) showed an overall improvement after regeneration investment, however, the effect size was small and changes were reported to be similar to national trends. In addition, some evaluations reported adverse impacts. Impact on housing, for example,

showed that the proportion of original residents living in improved housing after ABI investment was only reported in one evaluation (42.5%). Another evaluation assessed housing costs and found average social housing rent doubled over the 7-8 year period of investment.

- Urban regeneration evaluations in the UK report mostly gross outputs and monies spent, and do not report the actual impacts affected by investment. Attempts at impact evaluation are often unsuccessful because of difficulty with data collection, and data are often collected at area level rather than individual level.

- The impact of urban regeneration initiatives on health, socioeconomic status and on inequalities remains uncertain (Thomson et al., 2006).

- Further health impact assessment, including mental health impact assessment, is required if the potential of these initiatives to improve public mental health and reduce inequalities is to be confirmed.

Timebanks

Time banks, which are essentially mutual volunteering schemes using time as a currency, have been widely used within broader regeneration and urban renewal programmes. A time bank is a 'virtual' bank where people can deposit the time they spend helping each other and withdraw that time when they need help themselves (Friedli, 2007). Transactions are facilitated and recorded by a time broker. There are two major networks of time banks (www.londontimebank.org.uk and www.timebanks.co.uk). Ryan-Collins et al. (2008) report on how timebanking is used in the UK as a tool for building communities, helping to foster reciprocity and strengthen social networks and sustainable well-being. Case studies are reported which show how different models of timebanks impact on improving mental health, regenerating disadvantaged communities, reducing isolation for older people and improving the well-being of young people.

- Friedli (2007) reports that evaluation of time banks in the UK found that they are successful in attracting participants from socially excluded groups and people who would not normally volunteer. Friedli (2007) reports that 16% of traditional volunteers have an income under £10,000, whereas 58% of time

bank participants do,; 72% of time bank volunteers are not in formal employment compared to 40% of traditional volunteers; and 60% of referrals to time banks were from GPs and health workers.

- The following outcomes from evaluations of timebanks in the UK are reported; improved quality of life through social interaction, increased support, confidence, friendship and new skills for people with depression, support for people reluctant or unable to use psychological therapies, increased understanding and tolerance of depression and mental disorder, support for primary care workers by creating a system of social support for more vulnerable patients, and referral providing access to a much wider range of services (Friedli, 2007; Ryan-Collins et al., 2008).

- The current evidence base is limited in relation to the mental health benefits of Timebanks, however, findings to date indicate their potential to promote mental health and well-being and the need for more robust evaluation of their impacts.

Access to Education and Learning

Educational opportunities throughout life are associated with improved mental health, while lower levels of education are associated with poor mental health (Melzer et al., 2004; Patel, 2005). Positive educational experiences and academic achievement contribute significantly to the mental health and positive development of young people as outlined earlier in sections 1 and 2 of this report. There is evidence of a much higher prevalence of depression among women and men with low literacy skills (Hammond, 2002). The Centre for Research on the Wider Benefits of Learning, based at the Institute of Education (www.learningbenefits.net), provides evidence of a relationship between participation in learning and improved health outcomes, which are related to increases in knowledge and skills (human capital); trust and interdependency (social capital); positive self image, assertiveness and confidence (identity capital).

In a study of the health impact of participation in learning, Feinstein et al. (2003) report that learning contributes to positive changes in a range of attitudes and

behaviours including; exercise taken, life satisfaction, race tolerance, less authoritarian attitudes, political interest, number of club memberships and voting behaviour. Research by the National Institute for Adult Continuing Education (NIACE, 2009) suggests that education impacts on health through; improving socio-economic position, access to health services and information, resilience and problem solving, and improved self-esteem and self-efficacy.

Access to Employment

The negative impact of unemployment on health is well documented (Dooley et al., 1996; Jin et al., 1995; Ezzy, 1993). Dooley et al. (1994) report that people who become unemployed have over twice the risk of increased depression and diagnosis of clinical depression than those who remained employed. An association between unemployment and suicide has been found in a number of studies (Johansson and Sundquist, 1997; Blakely, Collings and Atkinson, 2003). However, in determining the direction of causality, the role of mental health problems in both suicide and unemployment need to be taken into account. Unemployed people report experiencing higher levels of anxiety, depression, uncertainly about the future, anger, shame and loss of self esteem following job loss (Breslin and Mustard, 2003). The duration of unemployment also tends to have a cumulative effect as those who are unemployed longer report the greatest level of psychological distress.

- A number of effective interventions have been developed with the aim of improving the mental health of those who are unemployed and improving their chances of finding a job (Price and Kompier, 2006).
- Reemployment, particularly in good quality jobs, has been shown to be one of the most effective ways of promoting the mental health of the unemployed (Lehtinen, Riikonen and Lehtinen 1998).
- An example of a large-scale effective intervention designed to assist job search through enhancing self-efficacy is the Jobs Programme, which has been developed and successfully implemented across a number of different countries. The JOBS Programme (Caplan et al., 1989; Vinokur, Price and Schul, 1995; Vinokur, Schul, Vuori and Price, 2000) was designed as a

preventive intervention for unemployed workers. This programme targets job loss as one of most consistent antecedents of depression and aims at providing job-seeking skills to promote re-employment and to combat feelings of anxiety, helplessness and depression among the unemployed.   Evidence from a series of large-scale RCTs, with a follow-up period of 2.5 years post-intervention, shows that the programme promotes positive mental health for unemployed workers, prevents the onset of depression among those at highest risk and is cost effective in terms of increased economic benefits for participants and society. The programme returns unemployed workers to new jobs more quickly, produces reemployment in jobs that pay more (Vinokur, van Ryn, Gramlich, and Price, 1991), and reduces mental health problems associated with prolonged unemployment (Vinokur, Price, and Schul, 1995), particularly among those most vulnerable to mental health problems (Price, van Ryn, and Vinokur, 1992).   In addition, the programme has been shown to inoculate workers against the adverse effects of subsequent job-loss (Vinokur and Schul, 1997). Benefit-cost analyses show that the JOBS programme brought a three-fold return on investment to increased employment, higher earnings and reduced health service and welfare costs (Caplan et al., 1997; Vinokur et al., 1991; Price et al., 1992; Vinokur, Price, and Schul, 1995; Vinokur et al., 2000). This intervention has been successfully replicated on a national scale in Finland (Vuori et al., 2002), and in the Netherlands (Brenninkmeijer and Blonk, 2006) and the Republic and Northern Ireland (Barry et al., 2006).

Reducing Stigma and Discrimination

The World Health Report (2001) highlights that the single most important barrier to overcome in the community is the stigma and discrimination associated with mental disorder and people who experience mental health difficulties. People with mental health problems and disorders consistently identify stigma, discrimination and exclusion as major barriers to their health and quality of life (Dunn, 1999). The 'Moving People' survey in the UK confirmed that stigma and discrimination are pervasive, with close to 9 out of 10 service users reporting its negative impact on their lives (Corry, 2007). Mental disorders rank as one of the most stigmatised conditions,

with negative impacts on social relations, employment, quality of life and self-stigmatisation (Link et al., 1997; Wright et al., 2000). Awareness raising and de-stigmatisation interventions have a significant role to play in mental health promotion. Socially shared beliefs and perceptions influence how mental health is interpreted and dealt with in the context of community life. Negative public stereotypes and stigmatising attitudes impact negatively on people's willingness to seek help for mental health problems and thereby impact on service take-up.

Tackling stigma and raising greater public awareness requires public education and focused intervention approaches. There are a number of different strategies that may be used to address stigma, ranging from sophisticated mass media campaigns to more local initiatives involving information distribution, workshops, community drama and community models of participation. Challenging stigma and promoting increased awareness of, and positive attitudes towards, mental health have been addressed through international campaigns such as; World Mental Health Day and the World Psychiatric Association's campaign " Open the Doors" (Sartorius, 1997; www.openthedorrs.com); national campaigns like 'Changing minds – every family in the land' by the Royal College of Psychiatrists in the UK; the You in Mind (Barker et al., 1993; Hersey et al., 1984); Defeat Depression Campaign (Paykel, 2001); the Norwegian Mental Health Campaign (Sogaard and Fonnebo, 1995); the Mind Out for Mental Health campaigns in England (www.nimhe.org.uk/stigmaanddisc); the Scottish 'See me' campaign (www.seemescotland.org); the Stamp Out Stigma in the USA (www.community-2.webtv.net/stigmanet), the Australian Beyondblue national depression initiative (www.beyondblue.org.au); and the 'Like Minds, Like Mine' campaign in New Zealand (www.likeminds.govt.nz). Campaigns or mass media interventions, particularly if they are supported by local community action, can have a significant impact on knowledge, attitudes and behavioural intentions. Such interventions can be used to increase understanding, reduce stigma and increase knowledge of coping and sources of support. In other words, they have the potential to impact positively on mental health literacy at the wider community level.

A number of key principles for effective and sustained stigma reduction have been identified (Pinfold et al., 2003; Link and Phelan, 2001):

- The approach used needs to address various levels such as the individual, community, organisational and national level.
- Education approaches alone will not be effective (Byrne, 2000) and contact between the public and service users has been found to have a more direct effect on improved attitudes (Pinfold et al., 2003; Corrigan & Ralph, 2004).
- Stigma reduction training programmes for health service staff, which involve users in the delivery of the programme, hold promise as an effective means of addressing stigma among front line health and welfare staff who interact with mental health service users.

Implementation Issues

Gale, Seymour, Crepaz-Keay, et al. (2004) in a scoping review on mental health anti-stigma and discrimination, provide an overview of a range of effective approaches to challenging the stigma and discrimination that is associated with mental health problems in England. Based on the existing evidence, this report identifies six key principles that should underpin effective programmes:

- users and carers are involved throughout the design, delivery, monitoring and evaluation of programmes
- programmes should be appropriately monitored and evaluated
- national programmes supported by local activity demonstrate the most potent combination for efficacy
- programmes should address behaviour change with a range of approaches
- clear consistent messages are delivered in targeted ways to specific audiences
- long term planning and funding underpins programme sustainability.

Gaps in the Evidence:

- There is a paucity of review level evidence on effective interventions for building a safe secure base, both for the general population and for BME and socio-economically deprived groups.
- There is an absence of primary research on effective policy and practice approaches for building resilience at the level of social groups and the community. Further research is required on the nature and determinants of resilient communities.
- The relative impact of material resources, social capital and psychosocial factors and how they interact to determine the mental health and well-being of populations and individuals remains unclear and needs further exploration.
- The relative influence of social support and material deprivation is likely to be a significant factor in explaining the differences in life outcomes both for individuals and communities and is an important area for further investigation.
- The role of mental health in mediating the impact of inequality on health is under-researched and presents as an area needing further investigation.
- There is a paucity of evidence on the effectiveness of upstream policy interventions such as improved housing, welfare, education, transport, environments and employment in improving mental health and well-being (Petticrew et al., 2005). The mental health impact of these broad-based interventions needs to be determined.

General Conclusions

There are many plausible policy interventions on building a safe secure base, which may be expected to directly or indirectly affect mental health, for which evidence appears to be absent. However, Petticrew et al. (2005) caution that the "absence of evidence" should not be mistaken for "evidence of absence" and that plausible interventions such as improved neighbourhoods, housing, social cohesion and anti-discrimination, can be reasonably expected to generate mental health gains. Good quality mental health impact assessment needs to be incorporated into future policy and programme evaluations.

- There is limited evidence of the impact of national urban regeneration investment on mental health and social health outcomes. Where impacts have been assessed, these are often small and positive but adverse impacts have also occurred.
- Impact data on mental health from future policy and community level evaluations are required to inform mental health promoting public policy.
- Work to exploit and synthesise "best available" data is required, including the mental health and social well-being impact of existing interventions.

Section 5

Promoting Integrated Physical and Mental Health & Wellbeing

The Relationship between Physical and Mental Health

There is growing evidence on the relationship between physical and mental health. Mental and physical health are closely inter-related, and mental health impacts on physical health and vice versa. Emotional well-being is recognised as a strong predictor of physical health at all ages. Several studies provide evidence of the relationship between mental health and physical conditions:

- Subjective feelings of emotional health are associated with increased general health and greater longevity (Goodwin, 2000).

- Sustained stress and trauma have been found to increase susceptibility to physical illness by damaging the immune system (Stewart-Brown, 1998).

- Mental health problems such as depression and anxiety may influence significantly the onset, course and outcome of physical health problems (Raphael, Schmolke and Wooding 2005).

- Keyes (2002, 2005) reports data from the MIDUS study in the USA indicating that when compared to those who are 'flourishing' (17%), moderately mentallly healthy (50%) and 'languishing' (10%) adults have significant psychosocial impairment and poorer physical health, lower productivity and limitations to daily living.

- Studies have reported the interactions between depression and physical conditions such as heart disease (Kuper et al., 2002; Hippisley-Cox et al., 1998), stroke (Carson et al., 2000; Jonas and Mussolino, 2000), diabetes (Anderson, Freeland, Clouse and Lustman, 2001) and cancer (De Boer et al., 1999).

- Prince et al. (2007) in the Lancet series on global mental health, report evidence from systematic reviews of population-based research showing moderate to strong positive associations between depression, anxiety and coronary heart disease, Type II diabetes, and fatal and non-fatal stroke.

- Studies also support a strong association between mental disorder and risk factors for chronic diseases, such as smoking, reduced activity, poor diet, obesity and hypertension (Prince et al., 2007).

While the complex relationship between physical and mental health states is not yet fully understood, the existing evidence suggests that the impact of physical health on mental health, and of mental health on physical health needs to be much better recognised in primary health care. Primary health care workers need to be more aware of the critical role that the promotion of mental health, and in particular the prevention of depression, has to play in enhancing overall health and the reduction of physical health problems. There is, therefore, a strong case to be made for ensuring that the promotion of mental health and prevention is incorporated in a more holistic manner into the standard delivery of health care for physical conditions. An overview of effective and promising approaches to promoting mental health in the primary care setting is given in this section. This includes a focus on interventions for promoting mental health through exercise, social prescribing mechanisms, depression prevention and interventions for older people and carers.

Promoting Mental Health through Exercise

There is an emerging evidence base on the benefits of physical activity and exercise promotion on mental health (Biddle, 2000; Fox, 2000; McAuley and Rudolph, 1995). Existing interventions that promote physical health have also been found to have a positive impact on mental health. There is great potential for combining mental and physical components in primary health care strategies thereby embedding mental health within more generic health promotion programmes on diet, nutrition, alcohol and exercise. There is widespread support for a positive and lasting relationship between participation in regular exercise and various indices of mental health in different age groups, and a number of reviews have been published in this field:

- Fox (2000) notes that the impact of physical activity on mental health is evident from several perspectives:
    - a substantial indirect effect of exercise on mental well-being through reductions in illness and premature death
    - exercise as a valuable treatment mode for some mental health problems and disorders
    - exercise as a useful enhancement of life quality for those suffering from mental disorders, even if it is not effective as a cure

- effective in the prevention of mental illness and disorders

- a powerful medium for improvement in mental well-being among the general population.

- The evidence for psychological benefits, although impressive for mentally healthy individuals, is even stronger for people with mental health problems. Daley (2002) notes that a number of studies have demonstrated a positive relationship between exercise and mental health in people with alcohol misuse problems, people with schizophrenia and those with clinical depression. Some of the improvements in mental health and psychological well-being encompass factors such as coping ability, self-esteem and mood.

- There is good evidence on the positive association between personal well-being and participation in physical activity and exercise in older people, but whether this relationship is causal cannot be verified (Taylor et al., 2007; Pinquart and Sorenson, 2001; Papworth and Milne, 2001; McAuley and Rudolph, 1995).

- Participation in physical activity, rather than physical fitness per se, appears to be related to improvements in well-being for older people. The role of physical fitness gain in improved personal well-being is not clear. The majority of programmes that employed training protocols resulted in significant improvements in both fitness and personal well-being, although the relationship between these improvements is unclear (Taylor et al., 2007; Pinquart and Sorenson, 2001; Papworth and Milne, 2001; McAuley and Rudolph, 1995). Further investigation in high quality trials is warranted.

- Although there is robust evidence for the mental health benefits of physical activity, there is very limited evidence on what works to promote the uptake of exercise. The NICE 2006a review of four common methods used to increase physical activity levels (brief interventions in primary care; exercise referral schemes; pedometers; and community-based walking and cycling programmes) found that there was insufficient evidence to support the effectiveness of any of them, with the exception of brief interventions (advice and written information) in primary care.

- The Green Gym project is an example of innovative and effective UK-wide initiative, set up as a result of a joint venture between a local health authority

and the British Trust for Conservation Volunteers (BTCV). The project aims to encourage the local community to improve their health and environment through participation in conservation activities. Green Gyms offer people a way of meeting others, getting physically fit and improving the natural environment. Referral may be through primary care or by word of mouth. A project officer provides training and support so that participants develop the skills and confidence to run the Green Gyms themselves. BTCV continues to support the scheme through its local and national service to community groups. Leaders are trained in basic exercise physiology including warm up and cool down stretches. Leaders are also instructed to encourage participants to work at levels of exertion that are appropriate to their level of fitness and ability. Local evaluations have demonstrated a range of physical and mental health benefits for participants, including reductions in depression scores on the Hospital Anxiety and Depression Scale and improvements in quality of life (BTCV, 1999, 2001). A national evaluation from 2003-2007 of 52 Green Gym projects involving 703 participants by Yerrell (BTCV, 2008) reports evidence of significant improvements on both mental and physical health scores on the SF-12 health-related quality of life scale, and increased levels of physical activity among participants, based on 67% follow up to 3-8 months. While there was evidence of diversity in socio-demographic profile among those participating, it appears that over 90% of participants were 'white', suggesting that many members of BMEs were not participating and are not represented in the research findings.

Implementation Issues:

- The major challenge for any exercise scheme is to find ways to establish long-term maintenance and adherence to exercise. A number of consistent factors have been found to promote exercise adherence and include easy, convenient, accessible and inexpensive exercise settings, frequent professional contact and exercise that is of a moderate intensity (Hillsdon et al. 1995).
- Innovative schemes such as the Green Gym project offer an alternative to other exercise prescription programmes and may be a more sustainable and attractive option for members. Evaluation of the motivating factors identified

by Green Gym participants included keeping fit; being out in the countryside; doing something worthwhile; improving the environment and meeting other people. Less important was preparing for next fitness assessment and weight loss. While these motivating factors may be reflected by the older age profile of the participants, nevertheless, it is worthwhile taking these factors into consideration when designing a community exercise intervention that can meet the needs of participants.

Mental Health Promotion and Prevention Programmes in Primary Care

Community-based services, including primary health care, have an important role to play in strengthening the mental health of individuals, families and communities and in recognising the importance of mental health to overall health and well-being (Jenkins and Ustun, 1998). Primary care presents an important opportunity for re-orienting health services towards the promotion of mental health and prevention of mental disorders. Primary care services have a pivotal role to play in promoting mental health, both in terms of its community-wide health focus to service provision and its aim of providing an integrated service, which effectively links community health care with specialist services. In terms of the pathways to care, primary care services are well placed to ensure early identification of mental health problems, the prevention of subsequent episodes and the general promotion of the physical and mental health well-being of local communities through either direct provision or referral to special services from voluntary and statutory services and agencies. Primary care can provide access to community supports and appropriate referral for the sizeable amount of people in the community with mental health problems. The main focus of primary health care, however, tends to be on physical health and many primary care workers do not have a mental health orientation.

Facilitating access to community and voluntary sector support schemes is an important function of primary health care. There are a number of effective community-based early years programmes (see section 1 of this report) that have a demonstrated impact on physical and mental health, child neglect, maternal well-

being and postnatal depression. Access to high quality social and family support has very positive effects on the mental health and well-being of both parents and young children. The evaluation of home-based social support to pregnant women at higher risk (e.g. those that are socially disadvantaged) provided by midwives (Oakley et al., 1996; Olds et al.1997) or lay/community mothers (Johnson et al., 1993; Hodnett and Roberts, 1997) strongly suggest that various forms of home support or home visiting during pregnancy improves mental well-being of mothers and their children.

Box 5.1: The importance of the primary health care as a setting for mental health promotion and prevention

- accessible community-based service
- provision of comprehensive and continuous care from the cradle to the grave
- non-stigmatising service
- multidisciplinary team co-ordinating service provision between health, social services, community and self-help groups
- gateway for specialist services
- referral to other support agencies and services
- provision of holistic care recognising the links between physical and mental health care
- knowledge of the social milieu of their clients and their circumstances
- greater possibilities for inter-sectoral collaboration in the local community.

Social Prescribing

Social prescribing refers to mechanisms for linking primary care patients with other non-medical sources of support within the community. Primary care staff provide information and support so that people can connect with education, arts, employment, leisure, community groups and voluntary work. This innovative approach also recognises the principles of recovery for people with long-term mental health problems and addresses their social support needs and quality of life. Social Prescribing recognises the broader determinants of mental health and has potential

benefits in early interventions, improving community well-being, recovery and social inclusion for people with mental disorder. A mental health social prescribing programme can be developed within primary mental health care and partnerships and collaborative working undertaken with the educational sector, voluntary agencies, leisure facilities and community groups. Initiatives such as Learning, Arts, and Exercise on Prescription, have been implemented with vulnerable populations, including those with mental health problems, and have been found to result in a range of positive outcomes such as enhanced self-esteem, self-efficacy and improved mood and social contact. There is a limited evidence base on the benefits of social prescribing, however, the available evidence supports their potential value for promoting community mental health and well-being and as a mechanism for meeting the non-medical needs of primary care patients and people with mental health problems.

Prescription for Learning

Prescription for learning projects support and encourage people who do not traditionally participate within the education system to engage in education, lifelong learning and active citizenship.   Adult learning influences attitudes and behaviours that affect people's mental well-being, either directly through promoting cognitive, social and personal skills that increase people's confidence in making decisions about their lives, or indirectly through employability and higher earnings (NIACE, 2009). The National Institute for Adult Continuing Education (NIACE) facilitates a consortium of prescription for learning projects, which includes providers from across the UK (www.niace.org.uk). The programme was launched in Nottingham in 2000 with participating surgeries based in deprived areas of Nottingham, marked by high unemployment levels, poverty and poor health (James, 2001; Aylward and James, 2002). Primary care staff refer patients, usually with symptoms such as anxiety, agoraphobia, low self-esteem or chronic pain, to a learning advisor. The scheme aims to offer patients learning experiences that will help them cope with their illness and improve their confidence, with an aim of reducing dependence on primary care professionals.

- Evidence of effectiveness relevant to prescription for learning includes research on the impact of learning on health, the relationship between learning and key risk factors for mental health problems, notably unemployment and social exclusion, and evaluation of specific projects (Friedli, 2007; NIACE, 2009).

- Evaluation of prescription for learning in Nottingham involving qualitative research on self-reported health outcomes among people aged 50-71, suggest that participation in learning has a positive impact on self confidence, self-esteem, satisfaction with life and ability to cope (Dench and Regan, 2000). These findings are particularly significant as over two-thirds of referrals were for people with no qualifications, who had not accessed any form of learning since leaving school.

- A NIACE survey found that the majority of respondents participating in 'Adult Learners' Week, reported positive benefits to mental, emotional and physical health such as increased confidence and self-esteem, being better able to cope with illness, feeling less ill and changing health behaviours (Aldridge and Lavender, 2000).

- In an analysis of the findings from evaluation of a range of prescription for learning projects, James (2001) identifies the following factors as being crucial for success; the provision, through a learning advisor, of one-to-one guidance, which is important to motivation and supports access to learning; a positive relationship between the learning advisor and healthcare staff, which raises awareness of the health benefits of participation in learning; immediately available learning opportunities.

- Further high quality research is needed on the impact of prescription for learning initiatives on mental health.

Arts on Prescription

Arts on Prescription uses arts and creativity to complement other forms of treatment and to contribute to reducing social exclusion, reducing dependence on antidepressants, empowering patients and strengthening the confidence and self-reliance of individuals and communities. Like other areas of social prescribing, evidence of effectiveness tends to focus on the impact of participation in the arts on self-esteem, self-worth and identity; the role of creativity in reducing symptoms e.g.

anxiety, depression and feelings of hopelessness; arts and creativity as resource for promoting social inclusion and strengthening communities.

- A number of studies suggest that creative activity has positive mental health benefits. These may relate to the development of self-expression and self-esteem, to opportunities for social contact and participation and/or to providing a sense of purpose, a sense of meaning and improved quality of life (Callard and Friedli, 2005; Friedli, 2007).

- Where wellbeing and self-esteem are concerned, there is more indication that positive outcomes are related to involvement with the arts, and not just with getting together socially or carrying out the physical activity involved (HEA, 1999).

- The results of reviews by both the Health Education Authority (1999) and Matarasso (1997) demonstrate improvements in motivation, greater connectedness to others, more positive outlook and reduced sense of fear, isolation or anxiety. These benefits were brought about by the opportunities that engagement in art afforded for self-expression, enhanced sense of value and attainment, and pride in achievement (HEA, 1999; Mataraso, 1997).

- There is also some evidence that participation in arts and creativity may offer an alternative model of responding to the mental health needs of members of BEM groups. A qualitative study by Friedli et al., (2002) of the views and experiences of young African and Caribbean men in East London found strong support for the mental health benefits of opportunities for arts and creativity. A central theme was the importance of arts and creative expression as protective factors in the face of the racism and discrimination experienced by the young men interviewed, both within mental health services and in the wider community. Participation in the arts was seen as a resource that empowered young black men to explore their histories and cultures and which acknowledged and validated their identity. As a non-stigmatising, creative activity, participation in arts may provide an alternative pathway to mental health services, as well as to education and employment, for young African and Caribbean men.

- Further high quality research is needed on the impact of prescription for arts initiatives on mental health.

Exercise on Prescription

Exercise on Prescription promotes physical activity for sedentary primary care patients and is one of the biggest GP referral schemes in the UK. Further details on the benefits of physical activity and exercise for mental health have been outlined earlier in this section.

- There is limited review level evidence on the effectiveness of exercise referral schemes.
- A systematic review of 22 studies by Sorensen et al. (2006) found that most studies reported moderate improvements in physical activity or physical fitness for up to 6-12 months. For patients receiving the intervention, 10% had improved their physical activity levels compared with controls and mean aerobic fitness was improved by 5-10%. There is little evidence to support the view the more intensive programmes are more effective.
- There is a lack of high quality studies evaluating the mental health impacts of exercise on prescription schemes, especially those that are sustainable in routine primary care services.

Implementation Issues:

Although there is a wide range of different models and definitions of social

prescribing, there are a number of common challenges in implementing programmes and integrating social prescribing within primary care practice. These include:

- Maintaining up-to-date information on sources of voluntary and community support.
- Establishing partnerships with multiple agencies with cultural differences in service delivery between medical and community development models
- The need for a skilled link worker such as a referrals' facilitator
- Concerns about voluntary sector capacity

- Concerns about increased GP workload

- Agreeing a referral mechanism and appropriate criteria

- Recording and evaluating outcomes

- Accountability and liability for referred patients.

Preventing Mental Health Problems in Primary Care

Ustun (1998) argues that the primary care setting is where mental health promotion and prevention programmes are most needed. Epidemiological studies indicate the prevalence of mental health problems such as depression and anxiety in community samples and the frequency of their presentation in primary care services (Kessler, 2007). Depression and anxiety disorders occur in up to 25% of primary care patients and are regarded as more disabling than many chronic physical illnesses (Muñoz, 1998). Despite this, there is strong evidence that mental health problems, such as depression, frequently go unrecognised as the diagnosis is missed, and even when recognised a significant number may remain untreated (Sartorius et al, 1996; Harris et al., 1996). Another major barrier to the identification of mental health problems is the stigma attached to mental disorders, which may prevent people who are most in need from disclosing their problems, thus making it extremely difficult for GPs to diagnose and appropriately refer patients. Most people with clinical levels of depression do not seek treatment, either because they do not recognise their problem as a mental health problem or because of stigma. The use of clinical practice guidelines as a tool to support best practice in relation to assessment, diagnosis, management and referral is increasing, and for example, WHO (1996) produced guidelines for primary care of common mental disorders, which have been adapted for the UK (WHO, 2000; Jenkins, 2004).

Greater recognition of mental health problems such as anxiety and depression in the primary care setting holds much potential in terms of mental health promotion and prevention. As depression is implicated in the majority of suicides, early recognition and adequate treatment of depression has a critical part to play in the prevention of suicide prevention (Muñoz, 1997).

Depression Prevention

In addition to the need to recognise depression as a primary disorder, it may also occur as secondary to a range of medical conditions. Depression is more common in people with physical health problems (Peveler et al., 2002) and may arise in conjunction with, or as a response to, chronic conditions associated with pain such as endocrine disorders, cerebrovascular disorders, and infections such as AIDS/HIV. The prevalence of major depression is one of the highest of all disorders (not just mental disorders) seen in medical settings (Muñoz, 1998). The prevalence of depression in the community appears to be increasing world wide (Murray & Lopez, 1996) and is predicted to rise to being second only to heart disease in the global burden of disease. Depression is also related to many other public health concerns, including substance misuse, violence, marital disruption and suicide (Muñoz, 1998). Muñoz (1998) points out that the likelihood of having an additional depressive episode is 50% after the first episode, 70% after two and 90% after three. Therefore, there is a strong argument for an effective identification of depression symptoms and the prevention of depression before it reaches clinical or chronic levels.

- There is some evidence that early identification and treatment can effectively reduce recurring episodes of depression (Muñoz, 1998). Prevention programmes implemented across the lifespan have provided evidence of the reduction of elevated depressive symptoms thereby reducing the risk for major depressive disorders (Jané-Llopis et al., 2005).
- Depression is also recognised as a precursor to suicide in both adolescent and older people and therefore, programmes designed to promote improved emotional functioning and depression prevention have the potential to make a significant impact on suicide prevention (Walker and Townsend, 1998).
- There is some evidence that general practitioner (GP) training in the recognition and treatment of depression has the potential to bring about reduced suicide risk at the community level (Rutz et al., 1995).
- It is recognised that even in high-income countries there is unlikely to be adequate provision of resources for mental health promotion, prevention and treatment. As depression often goes unrecognised and untreated, interventions

that provide alternative ways to effectively manage mood states and thereby
avert the gradual entry into clinical depression have significant implications
for population level programmes delivered through the primary care setting.

- Progammes providing individuals with strategies to manage negative mood
can result in both improved capacity for self-regulation of emotional health,
lower depressive symptoms and reduced risk of developing major depression.
As Clarke et al. (1995) point out, such interventions hold the promise of
reducing human misery and suffering and reducing health care costs by
providing an intervention when it might have its most potent effects, i.e.
before depression develops and requires more intensive and costly treatment.

Effective Interventions

- There is some evidence to support the use of counselling in the primary care
setting with modest short term (1-6 months) improvements being reported in
comparison to usual care (Bower et al., 2002, 2003; Bower and Rowland,
2006; Taylor et al., 2007) No long-term impacts were reported.

- Peden et al. (2005) found evidence for a cognitive behaviour therapy (CBT)
based community depression interventions with low-income single mothers at
risk of clinical depression. The effects continued over a 12 month period,
although attrition rates were reported to be high.

- The San Francisco Depression Prevention Research project (Muñoz and Ying
1993; Muñoz, 1997) is a depression prevention programme which is based on
CBT techniques and is delivered through a primary care setting. Muñoz
(1998) developed and evaluated strategies for mood management in order to
promote healthy emotional functioning and reduce the risk of developing
clinical depression for poor ethnic minority patients attending primary care
clinics in San Francisco (Muñoz et al. 1987; 1995). The intervention, which is
in the form of a group based educational programme based on the 'Control
your Depression' book by Lewinsohn et al. (1978, 1986), was evaluated by a
randomised controlled trial. The evaluation produced impressive results at
one year follow-up in terms of lowering symptoms of depression for those
who participated in the programme and promoting positive and more self-

rewarding thoughts and increased pleasant activities. The decline in depressive levels among the intervention group was found to be significantly mediated by changes in the frequency of negative thinking and activity levels.

- Dorwick et al. (2000) investigated the acceptability and efficacy of a problem-solving approach and the group-based 'Coping with Depression' course for adults with depression in the community. A multi-centered randomised controlled trial, carried out through the Outcome for Depression International Network (ODIN) group in nine sites across Europe, reported that participants of both interventions were less likely to remain in depression and were more likely to report improved subjective mental and social functioning at six months post-intervention in comparison to control groups.

- Reviews from NICE (2006b) and Kaltenthaler, et al. (2008) report evidence for the effectiveness of some computerised cognitive behaviour therapy for depression and anxiety. Computers and internet-based programmes have the potential to make psychological assessment and treatment more cost-effective. Computer-assisted therapy appears to provide a potentially useful alternative to CBT delivered by a therapist. However, more research is needed on client preferences and the acceptability of this form of therapy. Internet support groups may also be effective and have advantages over face-to-face therapy, although research is limited. McCrone et al. (2004) report that computer-delivered CBT has a high probability of being cost-effective, even if modest value is placed on the level of improvement in depression.

- Spek et al. (2007) report moderate effect sizes for internet-based CBT for depression and anxiety aimed at both community and clinical population groups. They report stronger evidence for interventions providing therapist support.

Interventions for Postnatal Depression

Postnatal depression affects 10-15% of mothers, may lead to chronic mental health problems in a significant proportion of women, and can also adversely affect the child (NHS Centre for Reviews and Dissemination, 1997; Murray, 1995; Murray and

Cooper, 1997). Studies evaluating the outcomes of specifically designed programmes to prevent postnatal depression produce mixed findings.

- Programmes by Elliott et al. (1988) and Zlotnick et al. (2001) report that antenatal education and parenthood support groups for high-risk first time mothers lead to reductions in postnatal depression symptoms and mental health related outcomes, such as improved mother-infant engagement (Cooper et al., 2002).

- Studies by Stamp et al. (1995); Morrell et al. (2000); Hayes (2001) and Brugha et al. (2000), report no significant effects on reducing postnatal depression or evidence that the effects are sustained beyond two months.

- As already reported in section 1, a systematic review by Shaw et al. (2006) does support the view that home visitation or peer support for women at risk of postnatal depression can lead to significant reductions in postnatal depression. However, no significant findings were reported for universal interventions.

- The programme by Elliott et al. (1988, 2000) is an example of one of the earlier psychosocial interventions, which demonstrated successful outcomes resulting in reduced levels of postnatal depression in first-time mothers. Elliott et al. (1988) conducted a controlled trial of an intervention which included several components: 1) continuity of care up to six months after the birth of the child; 2) an educational component covering at least three aspects: postnatal depression, the common 'realities' of life with a newborn, and ways of preparing for the new or changed job of parenting; and 3), the programme acted as a source of information on, or referral to, relevant local and national organisations. Monthly group sessions were organised for first and second time mothers to begin as early as possible in pregnancy and to continue until six months postnatal. The programme, which was participant led and delivered by a psychologist, was advertised as an educational, as opposed to a counselling or psychotherapy, programme with the intention of maximising the uptake of the service. Findings show that programme participants experienced less depression after childbirth compared to controls, with effects being especially evident for first time mothers. Further research is needed to determine whether comprehensive psychosocial interventions would be

effective when run within routine services by a health visitor or midwife without a clinical psychologist (Elliott et al., 2000).

Interventions for Older People

- There is a good body of evidence on the benefits of physical activity for older people in terms of enhanced mood, reduced depression, improved well-being, self-efficacy, quality of life and reduced risk of cognitive impairment (Taylor et al., 2007; Pinquart and Sorenson, 2001; Papworth and Milne, 2001; McAuley and Rudolph, 1995).

- There is review level evidence that psychosocial and psychotherapeutic interventions, particularly control enhancing interventions and cognitive behaviour therapy, in older adults significantly improve measures of self-reported psychological well-being (Pinquart and Sorensen, 2001).

- There is less robust evidence for the effectiveness of more specific psychological interventions such as dream telling, memory tapping, mental fitness training, resourcefulness training and visual stimulation (Pinquart and Sorensen, 2001).

- There is very little evidence of preventive interventions for older people with depression. Most preventive interventions for depression in older people include medication, while other promising initiatives such as bibliotherapy are mostly targeted at younger people. Support services offer protection against depression but older people themselves identify supportive networks of family, friends and wider communities as protective of their mental health (Seymour and Gale, 2004).

- There is very limited evidence of effective approaches to suicide prevention among older people. Seymour and Gale (2004) comment on the lack of a coherent approach to suicide prevention for older people in UK despite the fact that males over 75 years have the high incidence of suicide among all males.

Support Programmes for Carers

While carers play a critical role in the care and recovery of people with long-term disorders, the impact of caring for a family member or relative on the mental health of

carers is widely acknowledged. Researchers have documented the burden that the caring role imposes on relatives and the nature and extent of the areas affected. Carers may find themselves providing care with few supports, no specialist knowledge and no perceived support from services. The importance of emotional support, in particular, has been highlighted as this is likely to have an impact on the mental health of the carers. Caregivers tend to focus on the needs of those they take care of and therefore, may neglect their own health needs (Gray, 2003). Psychological or emotional health is the area of a caregiver's daily life that is most affected by providing home care (Gray 2003).

- In comparison to the general population, primary caregivers are more frequently depressed and anxious, are more likely to use psychotropic medications and can exhibit more symptoms of psychological distress (Toseland & Smith 2001; Zarit & Zarit 1998). Carers may suffer from reduced social networks and are likely to feel a sense of emotional loss and isolation.

- Caregiver depression is identified as a growing concern. Depression can deplete a caregiver's own resources and can put them at risk of developing chronic conditions such as coronary heart disease, cancer, diabetes (Cannuscio et al., 2002) and also contribute to a caregiver experiencing burnout. The effect of depression on a caregiver can impact upon the family, the client and ultimately on society.

- Older caregivers who report strain due to care giving, experience a 63% higher mortality rate than older spouses who were not involved in care giving (Schulz & Beach, 1999).

- There is review level evidence to suggest that community-based individual and group counselling sessions for carers of people with disabilities may be effective in reducing self-reported ratings of psychiatric symptoms and improvements in social networks/support, coping and dealing with problems (Tilford et al., 1997; Taylor et al., 2007).

- Mittleman et al. (1995) report on a comprehensive support programme for spouse-caregivers of Alzheimer's disease (AD). This multifaceted intervention included several programme components with the aim of maximising formal and informal support for caregivers and alleviating

depression. The programme included individual and family counselling, the continuous availability of ad hoc counselling, and support group participation. Mittleman et al. (1995) report that the findings from a randomised controlled trial of 206 spouse-caregivers show that in the first year after intake, the control group became increasingly more depressed, whereas the intervention group remained stable. By the eighth month, caregivers in the intervention group were found to be significantly less depressed than those in the control group. Results from the study demonstrate that an intervention, which enhances long-term social support to carers, has the potential for alleviating some of the deleterious effects of caregiving on mental health. The change in the intervention and control groups only became statistically significant eight months after caregivers entered the study and the impact of the intervention on caregiver depression increased with each follow-up in the first year after participants entered the study.

- A meta-analysis of caregiver interventions (Sorensen et al., 2002), which also includes Mittleman et al's study, reports that multi-component interventions may have a large effect on caregiver burden because they consist of multiple techniques and target multiple outcome domains. Long-term multi-component interventions are, therefore, recommended as they are most able to address a variety of caregiver needs.

- Comprehensive support services can improve caregivers' physical and emotional health, thereby contributing to improved care and recovery for the client and ultimately reduced government expenditures on nursing home care (Gray, 2003).

- Further high quality studies of the relative effectiveness and cost-effectiveness of different intervention approaches is warranted.

Implementation issues

Primary health care workers are in a position to support and participate in the delivery of a range of mental health promotion and prevention programmes that are community wide and available to all community members without stigma. They are also in a position to provide mental health advice, to play a role in identifying potential mental health problems and helping community residents to access specialist

services and expertise in voluntary and statutory services. However, many primary health care staff may not have a focus on mental health and may not have appropriate training to engage in the implementation of mental health promotion initiatives.

- The case for promoting mental health as an integral part of overall health and well-being needs to be made for primary health care professionals, including the growing evidence on the relationship between physical and mental health outcomes.

- The provision of training and skill development for primary health care workers in developing and implementing mental health promotion and prevention programmes is fundamental to mainstreaming and sustaining action in this area.

- There is a need to organise service delivery so that it is networked and integrated with local community supports and services for promoting mental health.

- While the primary care setting has advantages for mental health promotion, there may however, also be critical organisational and institutional drawbacks. The burden of increasing demands for productivity and efficiency may reduce the likelihood of primary care workers prioritising mental health promotion work. The re-orientation of primary care services towards mental health needs to be supported by policy and resources for the effective provision of prevention and mental health promotion.

Gaps in the Evidence

- There is a paucity of robust evidence on the effectiveness of mental health promotion and prevention programmes in the primary care setting.
- Evidence of the comparative effectiveness of different approaches needs to be established, including data on their long-term impact.
- There is an absence of evidence on the cost effectiveness of mental health promotion interventions or prevention of mental disorders in primary care, as the majority of studies do not include any costing data.
- There is limited evidence on the effectiveness of interventions for low socio-economic groups, marginalised and BME groups or studies that evaluate the

differential effectiveness of interventions between comparatively advantaged and disadvantaged groups.

- More high quality studies are required to determine the effectiveness and cost effectiveness of social prescribing mechanisms.

- There is very limited evidence of preventive interventions for older people with depression and of effective approaches to suicide prevention among older people.

- Further high quality studies are required to determine the effectiveness and cost effectiveness of different intervention approaches for postnatal depression in the UK health system.

- Evidence of the effectiveness and cost-benefit of caregiver support programmes for carers' mental health is limited.

- Some evidence reviews draw heavily on non-UK studies, e.g. USA, Canada, Australia, given the different health-care systems, the application of the findings to the UK context needs to be determined.

- The effective scaling up of effective interventions in standard service delivery needs to be further evaluated.

- There is a need to establish a stronger evidence base on the mental health benefits of lifestyle and behaviour change interventions on diet, smoking, alcohol and physical activity, and the potential of mental health promotion interventions to instigate and sustain these changes needs to be further explored.

- Further evidence on the synergistic impact of integrated mental health promotion, prevention and physical health interventions is required both for the general population and for people with mental health problems and disorders.

Conclusions

There is a paucity of review level evidence on promoting integrated physical and mental health interventions. However, there is review level evidence on the mental health impact of interventions in specific areas such as exercise, and on specific interventions such as depression prevention in the primary care setting. There is

clearly an opportunity for further integration of physical and mental health promotion through brief interventions, health behaviour change programmes and the implementation of specific prevention programmes. There is a need for more detailed evaluation of the impact of interventions on both mental health and physical health outcomes. Primary care offers both opportunities and challenges for promoting mental health and preventing mental health problems. The primary health care setting serves as an entry point into the health system and has the potential to serve as a sustained support for maintaining health and well-being. Further research is needed to determine the most effective way of using this opportunity. Based on the research evidence Barry and Jenkins (2007) identify the following characteristics of successful mental health promotion programmes in primary health care:

- Programmes adopting a competence enhancement and empowering approach, working in partnership with individual, families and the local community
- Programmes and initiatives which adopt an ecological approach, i.e. sees the child or adult as a member of a family and the family as a member of the community, engendering a better appreciation of how circumstances affect both the parents' and child's development capacities
- Comprehensive programmes that employ multiple methods, are broad spectrum and tailored to meet local needs
- Sustained high quality of input and continuity of input so that a relationship of trust and mutual respect is established
- Interventions accompanied by inter-agency and cross-sectoral community working, facilitating access to integrated health, education and social services
- Programmes which critically monitor their implementation in context and assess how programme delivery is affected by, and how it can positively influence, formal and informal family services and supports
- Programmes delivered in a non-stigmatising and accessible manner, reaching those most in need
- Programmes integrating mental and physical health goals, such as exercise programmes

- Skilled and trained staff orientated to recognise and respond to the mental health needs of the local community.

Section 6

Promoting Mental Health through Developing Sustainable Connected Communities

The community setting offers important opportunities to work with diverse population groups across a range of different settings and sectors. A community approach to mental health promotion views mental health as a positive resource for individuals and communities embedded within the cultural, social and economic contexts of everyday life. This socio-ecological approach underscores the importance of social interventions for strengthening communities, addressing systems of socialisation, social support and socio-environmental influences operating at multiple levels.

Community working is essentially characterised by collaborative practice, based on the facilitation of active community participation and the enhancement of community empowerment. These are fundamental guiding principles of a community model of practice. This style of practice is often characterised as a 'bottom-up' approach and is derived from community development or community organisation models of health promotion. These approaches are well documented in the health promotion literature and there are many excellent examples of their application (Bracht et al., 1999). However, the area of community mental health promotion, is less well documented in the literature and there is a limited evidence base. A range of different implementation strategies that may be applied with diverse groups across different settings within the community context may be identified. These include strengthening social networks, community partnerships, empowerment and peer support strategies.

Strengthening Communities and Social Networks

Belonging to a social network of communication and supportive relationships is protective of good health and positive wellbeing (Wilkinson and Marmot, 2003). A socially inclusive society may be defined as one where "all people feel valued, their

differences are respected, and their basic needs are met so that they can live in dignity" (VicHealth 2005, Research Summary 2). Durkeim (1897) was one of the first to propose that a lack of cohesion in society or 'anomie' contributes to negative mental health and is a leading factor influencing rates of suicide. Variations in suicidal behaviour and anti-social behaviour have been traced to the presence or absence of social cohesion (OECD, 2001).

- There is a large body of evidence which shows that more socially isolated people have poorer health and increased mortality (Berkman and Glass 2000; House, Landis and Umberson 1988) and that more socially cohesive societies are healthier and have lower mortality rates (Kawachi and Kennedy 1997).

- Davey Smith et al. (2001) report that suicide is strongly associated with social fragmentation, characterised by neighbourhoods with high levels of private renting, mobility, unmarried and persons living alone.

- A culture of co-operation and tolerance between individuals, institutions and diverse groups in society; a sense of belonging to family, one's school, workplace and community; a good network of social relationships have all been identified as protective factors for positive mental health and social outcomes (Moodie and Jenkins, 2005).

- Community involvement can enhance one's sense of belonging in society (Keyes, 1998). Studies have reported that a high level of social well-being can act as a resilient factor for poor mental health (De Silva et al., 2005).

- The mental health benefits of participation in community arts, drama, sports and culture have also been recognised both for the general population and for people with a mental disorder who may experience higher levels of social exclusion due to prejudice and stigma. Moodie and Jenkins (2005) and Mentality, 2003 report on a number of initiatives- such as Arts on Prescription in the UK, the Women's Circus in Melbourne for survivors of physical and sexual abuse, and VicHealth's Sport and Active recreation programme (VicHealth 2004a) - all of which promote self-esteem, identity, strengthen communities and social inclusion.

- In a review of 60 community based arts projects, Matarasso (1997) found that the benefits of participation in arts include increased confidence, community

empowerment, self-determination, improved local image and greater social cohesion.

- It is now widely recognised that social exclusion damages mental and physical health and contributes significantly to inequalities (Wilkinson, 1996; Wilkinson and Marmot, 2003). Communities can feel marginalized, fearful, excluded and disempowered in their ability to influence decisions and to participate fully in the social, economic, political and cultural systems that affect their lives.

- Perceptions of racial discrimination have been identified as a significant factor in the poor health of black and ethnic minority communities, over and above the contribution of socio-economic factors (Nazroo and Karlsen 2001, Nazroo, 1998).

- Research on social capital and inequality points to the importance of community cohesion such as levels of trust, reciprocity and participation in civic organisations, as important influences on health status. Putnam (2001) indicates that economic inequality and civic inequality are less in areas with higher values of social capital. Similarly, Putnam (2001) reports that in areas with low levels of social capital and high levels of perceived inequality, self-reported wellbeing and levels of happiness are lower.

- Wilkinson (1996) emphasises the importance of psychosocial pathways in examining the relationship between income inequality, social capital and health. Whiteford, Cullen and Baingana (2005) and Friedli (2009) extend this work to also consider the relationship between social capital, mental health and inequalities.

- Although the evidence base is quite limited in terms of effective interventions, community initiatives aimed at building social capital and seeking to strengthen community networks and increased participation by excluded groups have an important contribution to make in promoting community mental health and well-being.

Interventions Promoting Social Participation in Older People

There is a limited evidence base on community interventions designed to promote social inclusion and strengthen social networks in the general population. A number of studies, however, can be found in relation to interventions for older people. Seymour and Gale (2004) report evidence in support of a range of interventions that focus on risk factors such as isolation and loneliness, and on protective factors such as meaningful activity and social support.

- Cattan et al. (2005) conducted a systematic review of 30 studies (RCTs and non randomised controlled trials) that have evaluated the effectiveness of health promotion interventions to address social isolation and loneliness among older people. Some 10 intervention trials were judged effective, with 9 of the 10 being group activities with educational or support input. Programmes that enable older people to be involved in planning and delivering activities are most likely to be effective. Six of the eight ineffective interventions provided one-to one social support, advice and information, or health-needs assessment.

- Van Haastregt, Diederika, van Rossum et al. (2000) report evidence from a systematic review of the effects of preventive home visits to older people living in the community. Only one trial was found to have a favourable effect, a UK study demonstrating positive impact on attitude to ageing, loneliness, isolation, and emotional reaction. The other seven studies had no significant effects.

- There is some review level evidence to suggest that volunteering undertaken by older people improves the quality of life of those who volunteer, with those participating in face-to-face direct volunteering achieving the greatest benefit compared with those involved in indirect, less formal helping roles (Wheeler et al., 1998; Rabiner et al. 2003; Butler, 2006). However, Windle et al. (2007) comment on the poor quality of many of the studies.

- Despite several British national policies to reduce isolation and loneliness, there is a paucity of evaluations on the impact of policy change on social isolation and loneliness (Cattan et al., 2005).

Participation in Community Arts

Community-based arts activity can make a significant contribution to community health, fostering social cohesion and sense of belonging through collaborative and participatory processes (Rowling and Taylor, 2005). Art in this context refers to a wide range of creative activities including painting, sculpture, photography, music, poetry, drama, dance and other performance arts, and is distinct from art therapy, a professional discipline with a long tradition as a psychological therapy. Through involvement in community arts activity, participants have been shown to develop supportive social networks and report increased feelings of self-esteem and well-being. Arts and creativity are seen as a means to: empower communities, explore and affirm identity, strengthen social cohesion, and challenge the stigma attached to mental illness (Friedli et al., 2002; Callard and Friedli, 2005).

The value of art and creative expression as a resource for the whole community is an emerging theme and there are a number of calls for more robust evaluation of the impact of participation in the arts on health and mental health (Jermyn, 2004; Ruiz, 2004). The more participatory forms of community arts, where community groups determine their own process, are being incorporated into health promotion and community development strategies (Rowling and Taylor, 2005).

- There is a growing body of literature about the impact of the arts in health (HEA, 1999; Matarasso, 1997). In a review of 60 community-based arts projects, Matarasso (1997) found that participation in these projects brought a wide range of benefits, including increased confidence, community empowerment, self-determination, improved local image and identity and greater social cohesion.
- Dwelly (2001) reports on a study of ten arts projects in Wales, which found that a focus on cultural well-being, people's ability to express themselves and engage their creative abilities made a major impact in revitalising run down neighbourhoods.
- In spite of some encouraging findings, much existing evaluation is based on short-term or intermediate outcomes. Many studies are based on small-scale

surveys, lack a longitudinal dimension and fail to identify arts specific aspects of the programmes (Coulter, 2001).

- More detailed evaluation of processes and outcomes is required in this area. A major review of arts for health initiatives by the HEA (1999) concluded that there is a need for an established set of principles and protocols for evaluating outcomes, assessing the processes by which outcomes are achieved, and disseminating recommendations for good practice.

Implementing Community Empowerment Programmes

Community-based practice provides an opportunity to work with marginalised and disenfranchised groups in their local surroundings. The engagement of disadvantaged groups is a particular challenge in community health programmes. Adopting a community approach in addressing inequalities in health has been recognised by community initiatives such as the Health Action Zones in the UK (Barnes, Bauld, Benzeval et al., 2005), a small number of which included mental health initiatives. Mental health promotion may be incorporated as part of these wider community initiatives and included as an integral component of a community strategy for tackling health inequalities. As Israel et al. (1994) point out, a clear rationale for a community empowerment approach is provided by epidemiological, sociological and psychological evidence of the relationship between control and health, and the association between powerlessness and mental and physical health status. There is also an accumulating body of evidence that poverty or economic powerlessness, is linked to high rates of social dysfunction, poor mental health and increased morbidity and mortality (Narayan and Petesch, 2002; Patel et al. 2005; Pickett, et al., 2006).

Empowerment may be defined as a social action process through which individuals, communities and organisations gain mastery over their lives in the context of changing their social and political environment to improve equity and quality of life (Rappaport, 1985; Wallerstien, 1992). Community empowerment may be differentiated from empowerment at the individual level, since as a multilevel concept it operates at the different system levels of the group, organizational and wider community level (Labonté, 1990). An empowered community is where individuals and organisations apply their skills and resources in collective efforts to meet their respective needs. Through participation, individuals and organisations within an

empowered community provide enhanced support for each other, address conflicts within the community, and gain increased influence and control over the quality of life in their community. An empowered community has the ability to influence decisions and make changes in the larger social system. Therefore, empowerment at the community level is connected with empowerment at the individual and organisational levels. A community empowerment approach recognises the cultural, historical, social, economic, and political context within which the individual exists. A model of empowerment that links all three levels provides the most effective means to collectively provide the support and control necessary to develop needed skills, resources and change.

Effective Interventions

- Effective interventions include; economic empowerment initiatives such as micro-credit schemes and community banks, literacy promotion, policies that promote gender equality and violence and crime reduction in marginalised communities. There are many useful examples of community empowerment programmes in low-income countries (see e.g. Patel, 2005 and Patel, Swartz and Cohen, 2005), which also have a significant role to play in promoting mental health. These community development programmes, based on the empowerment of the marginalised and the participation of local community leaders, provide a useful model for promoting mental health in low-income settings.

- Community development programmes, without specific targeted mental health objectives, can impact positively on mental health. To demonstrate effectiveness, however, the impact on mental health needs to be incorporated into evaluations. Arole, Fuller and Deutschman (2005) describe the effects of poverty and inequality on mental health and provide examples of how building the social capital of communities in rural India through the Comprehensive Rural Health Programme has worked to achieve outcomes for mental health. This community development programme directly targets poverty, inequality and gender discrimination and has led indirectly, through empowerment and increased participation of women, to significant gains in mental wellbeing.

- A meta-analysis of 40 case studies from diverse cultures by Kar et al., 1999, found that even the most disenfranchised and deprived women and mothers can and do lead successful social action movements that are self-empowering and significantly enhance the quality of life of their families and communities. They report that involvement in social action movements ranging from a Community Kitchen Movement in Peru to a Committee to Rescue our Health in Puerto Rico and Women against Gun Violence in USA, regardless of their specific goals, methods used or outcomes, has strong empowering effects both in terms of the enhancement of the women's subjective well-being, self-esteem and self-efficacy and as a result, their quality of life and social status in the community.

- Raeburn (2001) argues that community development economic and ecological projects undertaken in low-income countries e.g. building schools, saving the natural environment, have a direct and beneficial mental health promotion impact, whether that is their explicit aim or not. Employing examples of community projects from New Zealand, Raeburn (2001) outlines how the same principles of collective community effort can also be applied in relation to mental health promotion in high-income countries.

Peer Support Models of Community Mental Health Promotion and Prevention

Peer support programmes can play an important role in promoting mental health and well-being by providing learning and growth opportunities, through the medium of linking relationships, bridging the gap between one life phase and another during a critical life transition period. Learning comes from the relationship with other persons who provide peer support in the form of supportive and nourishing relationships with a peer. The mutual help model is seen as facilitating change through emphasising the value of other persons as helpers. The special mutuality in this relationship is seen as being particularly important. A mutual exchange takes place involving people who share a common problem, which one of them has previously coped with successfully. The helping person has expertise based on personal experience in solving the particular problem.

Effective Interventions

The effectiveness of peer support programmes is supported by research indicating positive benefits for both community members in receipt of, and community members delivering, the programmes. Findings in relation to peer support for parents and young people have already been covered in sections 1 and 2. This section focuses on community interventions for adults and older people.

- Research findings support the effectiveness of peer support programmes for diverse groups delivered by trained community volunteers (Wheeler et al., 1998; Cattan, 2002; Vachon et al., 1980, 1982).

- Based on a systematic review of studies evaluating the effectiveness of health promotion interventions, Cattan (2002) reports that self-help groups, bereavement support and counselling were all found to be effective in reducing social isolation and loneliness among older people.

- Wheeler et al. (1998) report on the positive effects on mental well-being for older people who volunteer and also the effectiveness of peer counselling in reducing depression for older people who receive support from an older volunteer.

- Moodie and Jenkins (2005) reference the 'Ageing Well UK Network', which is a national health promotion programme where trained volunteer peer mentors aged 55 years or older, provide support, advice and information to their peers in order to promote positive physical and mental health.

- There is some review level evidence that 'buddying', self-help networks, or practical support to at-risk older people can improve self-reported health, adjusting to stress, self-esteem and social functioning (Tilford et al., 1997; Taylor et al. 2007).

- Mutual help programmes such as Sliverman's (1988) Widow-to-Widow programme offer an effective and low cost means of meeting the needs of the bereaved, and reducing depression, in an accessible community context. The Widow-to-Widow programme is a volunteer community programme for recently widowed persons still experiencing bereavement and the problems of coping with the loss of a loved one. In this programme, other widowed persons are the primary helpers providing support to the newly widowed. A

community outreach service is provided, usually involving an unsolicited offer of help to the newly widowed by trained volunteer helpers. Vachon et al. replicated the programme in Toronto (Vachon, 1979; Vachon et al., 1980, 1982) and examined the impact of the programme in a randomised controlled study. The results of this study found that the intervention had a positive impact and significantly facilitated the process of adaptation to bereavement. They also reported that the programme was most effective with those who were at highest risk in terms of higher initial distress. It would appear that the quality of the support offered in the widow-to-widow programme is the discriminating factor and explains the power of the intervention. Many of those who receive help from the programme go on to become helpers, which means the programme is in effect self-generating.

Implementation Issues:

Inter-sectoral Working and Partnerships

As our understanding of the nature of mental health and its determinants broadens, so also does our appreciation of the need to address the factors outside of the health area that influence mental health. A community perspective recognises that many public and private sectors and players can have a critical influence on mental health at the community level. Sectors outside of the health area are recognised as having an important role to play, for example, educational institutions such as schools, the media, local government and planning authorities, economic and commercial organisations, employment and transport sectors, faith groups, voluntary organisations, social, cultural, sports and civic groups. Partnership working and inter-sectoral collaboration is now very much at the core of modern health promotion practice where community members, health professional, governmental and non-governmental agencies work together in achieving agreed goals and objectives in promoting health and well-being.

- Collaborative community partnerships based on existing strengths and resources are recognised as a key strategy for community mental health promotion.

- Community programmes that are based on community resources and collaborative structures are also more likely to be relevant, meaningful, and ethnically and culturally more appropriate for that community and are also more likely to be owned by that community.
- An ecologically valid programme fits the community context because its design is driven by community needs and its implementation process complements existing community strengths and resources (Foster-Fishman et al., 2001).
- Barry and Jenkins (2007) outline the following key features of building effective collaborative partnerships and the generic principles underpinning the successful implementation of community progammes:
  - clarifying community boundaries and how 'community' is defined
  - determining community readiness for implementing a particular initiative
  - creating clear organisational structures for collaboration across sectors
  - developing a shared mission and clear objectives
  - establishing clear communication
  - generating meaningful and active community participation
  - building relationships based on trust and mutual respect
  - developing collaborative leadership by identifying leadership roles and delegating responsibility
  - building core competencies and capacities within the partnership structure at the level of members, the organisation, the programme and external relations
  - fostering action through setting clear goals and objectives, written action plans, realistic work plans, and measurable indicators of success
  - effective management of the operations of the partnership
  - ensuring there is a comprehensive and collaborative evaluation research process which will seek to capture the synergistic impacts of multifaceted complex interventions
  - plan for programme sustainability in the context of a changing and dynamic local environment.

Gaps in the Evidence:

- There is a paucity of review-level evidence on the promotion of positive mental health and the prevention of mental disorders among adults in the general population. Of the reviews identified, the majority focussed on interventions for individuals or small groups at higher risk.

- Better research is needed to estimate the value of most interventions and research into cost-effectiveness is especially sparse with little economic research even into programmes with evidence of effectiveness.

- There is a paucity of research on mental health promotion and prevention interventions for BMEGs.

- There is limited research on the benefit of interventions for people undergoing stressful life events and transitions such as bereavement, job loss, divorce, long-term unemployment, living with a disability etc.

- No reviews were found of interventions addressing specific gender and cultural issues at different life stages.

- There is a shortage of robust evidence for the effectiveness and cost-effectiveness of community interventions to improve the mental well-being of older people (Windle et al., 2007).

- While there is a well-documented association between social disadvantage and the presence of mental health problems and disorders, there is an absence of any systematic or other review level evidence of the mental health impact of interventions that aim to reduce social inequalities. A small number of interventions have been targeted at high-risk groups who are socially excluded, such as people from lower socio-economic groups or BME groups. However, there are virtually no examples of studies evaluating the mental health impact of interventions that focus on social inequities. Further high quality primary research is needed in this area.

- The evaluation of the mental health impact of UK government initiatives through the Social Exclusion Unit and Neighbourhood Renewal Unit have not yet found their way into review-level evidence.

- Further primary research and review work is needed in the areas identified above in order to address gaps in the evidence base.

Conclusions

The evidence base for mental heath promotion and prevention in sustainable connected communities is quite limited with little review level evidence available on effective interventions and approaches. Much of the existing evidence has focused on individual-level interventions and there is a need to generate evidence on the effectiveness of interventions operating at the community level in promoting positive mental health and preventing mental disorder. The complexity of multifaceted community programmes presents a particular challenge in terms of programme evaluation, as they do not lend themselves to the adoption of traditional evaluation approaches and experimental designs. This calls for the development of more pluralistic evaluation methods and consequentially, a broader based approach to evidence review in this area. That said, there are a number of convincing arguments for adopting a community-based approach to mental health promotion and prevention (Barry and Jenkins, 2007):

- Community-based programmes have the capacity to address multiple interacting levels of the person, situation and environment, thereby increasing the synergistic effect of intervention programmes.
- Community-wide interventions have the potential to reach a wider range of population groups across a range of setting and sectors.
- Cross sectoral community approaches provide an opportunity to engage with multiple stakeholders through collaborative partnerships in addressing the broader social determinants of mental health.
- Community programmes reinforce social norms, and promote structures and environments that are supportive of positive mental health across multiple segments of the community.
- Community programmes which target the whole community are more likely to avoid the stigma and negative labelling associated with programmes targeted at specific groups, such as those who are disadvantaged or regarded as being at higher risk of mental health problems.
- The process of participation, which is central to community practice, is recognised as promoting a sense of ownership of the programme and enhancing overall community competence and capacity.

- Programmes that are planned and designed through community partnerships and collaboration are more likely to be ecologically valid i.e. relevant, meaningful and culturally appropriate for the community in which the programme is implemented.
- Collaborative community programmes, through the empowerment of community members, contribute to the development of local expertise which increases the possibility of sustaining local initiatives after initial funding.

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Appendix 1: Mental Health Promotion and Primary/Secondary Prevention: Characteristics of Review-level Intervention Studies

1. Ensure a Positive Start - Early Years Interventions: Characteristics of Review Studies

Home Visiting Programmes

Study name	Target group	Aim	Type of research	Health Benefits	Wider social and economic benefits	Effect sizes	Impact on inequality	Conclusion/ recommendations
Does home visiting improve parenting and the quality of the home environment: A systematic review and meta analysis (no effect sizes) Kendrick et al (2000) US, Canada,	Mostly families at high risk of adverse child and maternal health outcomes	Evaluate the effectiveness of home visiting programmes on parenting and the quality of the home environment	Systematic review of RCT' and quasi-experimental studies (n=102) involving at lease one postnatal visit	Effective in: Ameliorating child behavioural problems; Improving the detection and management of PND; Improving child intellectual development; Reducing frequency of unintentional injury	Effective in: Enhancing the quality of social support for mothers; May help families to parent in a way that enables them to achieve their child care goals more easily or helps remove the barriers preventing them from achieving their child care	Overall effect sizes not determined	Majority of studies focused on families living in socio economic deprivation	Home parenting programmes were associated with an improvement in the quality of the home environment as measure using the HOME scale and in improving parenting using a range of other measures

UK and Ireland					goals			
Effectiveness of Home Visiting as a Delivery Strategy for Public Health Nursing Interventions to Clients in Pre and Postnatal Period: Systematic Review. Ciliska et al., (1999) US, UK and Canada	At risk mothers in the pre and postnatal period, teen mothers, mothers at risk	Effectiveness of a home visiting public health nursing interventions to pre and postnatal clients.	RCTs, (n=8), CCTs (n=3) and a Cohort Analytic study (n=1)	Improvements in: Children's mental development; Mental health; Physical growth; Nutrition and other health habits. Reduction in maternal depression. Promotes factors associated with bonding and positive child development	Improvements in maternal employment and education. Reduced number of pregnancy among you, single, poor mothers. Where costs were calculated (n=5 studies) home visiting was cost effective.		Greater impact on clients of higher risk (e.g. low income teens) than on those of moderate or low risk. The exception to these findings in high-risk groups is the study with young pregnant women who were multiple drug users (Black et al., 1994)	Multiple intervention strategies are most effective for improving children's development, reducing maternal depression, improving maternal nutrition, education and employment , and effecting government cost saving Interventions aimed at women at high risk due to social circumstances have a greater impact than those directed at more advantaged clients.
The effectiveness of domiciliary health visiting: a systematic review. Elkan et al. (2000)		Conduct a systematic review of the effectiveness and cost-effectiveness of domiciliary health visiting and a review of the British health visiting literature	102 studies with comparison groups	Improvements in: parenting skills; child behavioural problems; Intellectual development; Detection and management of PND; Rates of	Enhancement of the quality of social support. Indicate that there is a potential for home visits to produced net cost savings, in particular			Several reviews of the literature support making the content, duration and intensity of home visits appropriate and sensitive to the needs of the client.

Study name	Target group	Aim	Type of research	Health Benefits	Wider social and economic benefits	Effect sizes	Impact on inequality	Conclusion/ recommendations
				breastfeeding	hospital cost savings.			
Meta-Analyses of sensitivity and attachment interventions in early childhood. Bakermans-Kraneburg et al., 2003	Data on 9, 957 children and their parents; Interventions starting before children's mean age of 54 months.	Determine the effectiveness of various interventions for enhancing maternal sensitivity and infant attachment security	70 studies of various designs describing 88 interventions on parental sensitivity and infant attachment	Randomised interventions were effective in changing parenting sensitivity and infant attachment security		Parental sensitivity ES = 0.33, (95%CI: 0.25-0.41) Infant attachment ES = 0.20, (95% CI: 0.04-0.35)	Studies included low SES mothers, adolescent mothers, mothers with clinical depression, and poor minority mothers	The most effective interventions used a moderate number of sessions and a clear behavioural focus on in families with and without multiple problems.

Parenting Programmes

Study name	Target group	Aim	Type of research	Health Benefits	Wider social and economic benefits	Effect sizes	Impact on inequality	Conclusion/ recommendations
Group-based parent-training programmes for improving emotional and behavioural adjustment in 0-	Parents or grandparents and children Many of those targeted were multi-ethnic	Are group-based parenting programmes effective in improving the emotional and	RCTs where participants had been randomly allocated to an experimental and a control	- Improve emotional and behavioural outcomes in infants/toddlers	Can be effective with parents from a range of minority ethnic groups including Latino and African-	Parental reports (0.29) Independent	- Improved outcomes for toddlers of participating parents - Parents showed	Provides some support for programmes to improve emotional and behavioural adjustment of children < 3.

3 year old children (Review) Barlow J. and Parsons J. (2001) UK and Australia	toddlers in low-income urban communities (N=387)	behavioural adjustment of children < 3; Are they effective in the primary prevention of emotional and behavioural problems	group	- Parent reports on children's behaviour show a non-significant result favouring the intervention group. - Independent observations of same shows a significant result favouring the intervention group -Meta-analysis of small follow up found a small non-significant result favouring the intervention group	American (n=264) (Gross et al 2001)	observations (0.54) Follow up (0.24)	significantly decreased levels of verbal and corporal punishment and of anger and stress Nicholson (2001) - Significant changes reported by teachers and independent observers both post-intervention and at 1 year follow up (teachers only) (Gross et al, 2001)	Limited evidence available concerning the extent to which these results are maintained over time is equivocal and because this is a period of rapid change in an infant's development further input at a later stage may be required
Systematic review of effectiveness of parenting programmes in the primary and secondary prevention of mental health problems Barlow J,	Parents/single parents of children aged 0-3. N=245	Are group parenting programmes effective in improving the mental health of children < 3; Are parenting programmes effective in the	Eight studies were included: Five RCTs with pre- and post-measures; Two one group design with pre- and post-measures;	Effective in improving emotional and behavioural adjustment	Currently there is insufficient follow up data to evaluate success in this area (Wolfson et al. 1992)	Emotional and behavioural adjustment (-0.69)	Significantly decrease levels of verbal and corporal punishment and of anger and stress reported by parents in low socio-economic groups. Also improved outcomes for the	It has not been possible with this limited data to proved conclusive evidence regarding the role of parenting programmes in the primary prevention of mental health problem. Caution should be exercised before these

Parsons J, Stewart-Brown S (2002) UK		primary prevention of mental health problems?	One two group design with pre- and post-measures				toddlers of these parents (Nicholson 2001)	results are generalised to all parents irrespective of ethnicity.
Effectiveness of the Triple P Positive Parenting Program on Behavioural Problems in Children: A Meta-Analysis, De Graaf et al. (2008) The Netherlands	High-risk children (2-11) who are identified as having detectable problems but who do not yet meet diagnostic criteria for a behavioural disorder.	To assess the effectiveness of Triple P interventions (Level 4) in management of behavioural problems in children by pooling the evidence from relevant literature that included Level 4 Triple P interventions	14 RCTs and one non-random, two-group, concurrent prospective observation	Improvement in the behaviour of the child and these improvements are sustained over time and seem to even improve somewhat in the long term.		Post intervention (0.88) Long term follow up (1.00)		Level 4 system of the Triple P intervention is a worthwhile intervention to both prevent and treat behaviour problems in children. The study supports the widespread adoption & implementation of the program in an increasing number of countries in quite diverse cultural contexts.
Parent-training programmes for improving maternal psychosocial health (Review) Barlow et al	Parents of children from a range of socio-economic and population groups	Establish if parenting programmes can improve maternal psycho-social health	RCTs	All programmes reviewed were successful in producing positive change in maternal psychosocial health.		Depression (-0.26) Anxiety/	A number of studies showed that parents from both disadvantaged and less disadvantaged backgrounds	Parenting programmes can be effective in improving a range of psychosocial outcomes in mothers. The limited follow-up data available are equivocal and the overall paucity

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2003 UK, USA, Ireland, Canada and Australia				Significant improvements favouring intervention group for depression, anxiety/stress, self-esteem, relationship with spouse/marital adjustment		stress (-0.4) Self-esteem (-0.3) Relationship with spouse /marital adjustment – (-0.3)	were able to benefit from the support offered.	of follow-up data points to the need for further evidence concerning the long-term effectiveness of parenting programmes in improving maternal psychosocial benefits.
The Clinical Effectiveness of Different Parenting Programmes for Children with Conduct Problems: A systematic review of randomised controlled trials. Dretzke et al. (2009) UK	Parents/carers of children up to the age of 18 with a conduct disorder.	Systematic review of RCTs of parenting programmes for the treatment of children with conduct disorders	RCTs N=57	Child behaviour outcomes were statistically significant in favour of the programme over the control group. Consistent trend across all studies showing a benefit from parenting programmes; meta-analysis of the most commonly reported child behaviour outcomes showing statistically significant improvements	Likely to be cost-effective or may lead to cost-savings through avoidance of alternative treatment	Parent report of child behaviour outcomes SMD = -0.67 (95% CI: -0.91, -0.42) Independent assessment outcome SMD = -0.44 (95% CI: -0.66, -0.23)		Parenting programmes are an effective intervention for children with conduct problems. The relative effectiveness of different parenting programmes requires further research. There was insufficient evidence to show clear superiority of any one approach to delivery. Due to the case-mix in many trials there is also some uncertainty regarding the families

								that would most benefit form this form of treatment.
Programs for the promotion of family wellness and the prevention of child maltreatment: a meta-analytic review. MacLeod J., and Nelson G. (2000)	A large percentage was predominately black, low socio-economic status and first time mothers	To determine the effectiveness of programmes in promoting family wellness and preventing child maltreatment.	Fifty six studies were included	Successful in promoting family wellness in the forma of a change in attitudes toward parenting, positive parent-chid interaction and a secure and stimulating home environment.		Mean effect size (0.41) Social support / mutual aid (0.61) Multi-component intervention (0.56) Home visitation intervention (0.41)	Both home visiting and IFPS interventions achieved higher effect sizes with participants of mixed SES than those with participants of low SES	Most interventions which aim to promote family wellness and prevent child maltreatment are successful. Proactive programmes work better the earlier the intervention and they tend to work better with families with infants.
Systematic review of Effectiveness of Postpartum Support to Improve maternal mental health	Interventions initiated immediately after birth and up to one year in postnatal women	To determine effectiveness of postpartum support programmes in improving maternal knowledge, attitudes and skills related to	22 RCTs	For women at high risk for either family dysfunction or postpartum depression, nurse home visits or peer support produced significant improvements in postnatal depression	Nurse home visits combined with case conferencing produced significant improvements in the quality of the home environment for		Educational programmes led to improvements in parenting skills for low-income women	There is some evidence that high-risk populations may benefit from postpartum support. Universal postpartum support to unselected

		parenting, maternal mental health, quality of life and physical health.		scores (difference -2.23, 95% CI-3.72-0.74 and 6.23, 95%CI 1.40 to 27.84 respectively).	women at higher risk. .			women at low risk did not produce significant outcomes.
Shaw et al. (2006)								

Early Childhood Care/Pre-School

Study name	Target group	Aim	Type of research	Health Benefits	Wider social and economic benefits	Effect sizes	Impact on inequality	Conclusion/ recommendations
Community-Based Interventions to Improve Child Mental Health: Review of Reviews Thomas et al. (2002) US, UK, Canada and the Neherlands	Children from poor and otherwise disadvantaged families (n=604)	To carry out a systematic review of reviews about effectiveness of interventions to enhance the mental health of children aged 0-6	RCTs, meta analyses and systematic reviews.	Help avoid risky behaviour (smoking and drugs); Improved emotional control and interpersonal problem solving Programmes focused on training parents to use reinforcement effectively to change child behaviour and on empowering parents were most effective	Effects were noted for prevention of antisocial behaviour and delinquency, social competence, improvement in affective behaviour and interpersonal problem solving, improved maternal-child interactions, and improved pro-social behaviour at school. Group programs were found to be more cost effective than individual parenting programmes in improving child behavioural outcomes	n/a	Families at highest risk benefited most from the interventions Overall for disadvantaged children, all ECCE programs reported improved cognitive outcomes. The more intensive, longer term programs reported more lasting improvement	High quality ECCE (Early Childhood Care and Education) programs should be accessible to all at-risk children Guidelines for quality ECCE programmes need to be developed and instituted Programs that successfully improve child social-emotional outcomes focus on both children and their parents.
A Meta-analysis of Longitudinal Research on Preschool Prevention Programs for Children.	Preschool children in disadvantaged areas	To determine the effectiveness of preschool prevention programmes for disadvantaged	36 experimental or quasi-experimental trials with at least one year follow up	Pre-school programmes had lasting cognitive and social-emotional impacts during K-8 time period. Length and intensity of intervention	Sustained cognitive, emotional and social outcomes	Preschool cognitive component ES=0.52; K-8 cognitive outcomes SD=.030; Social	All of programmes targeted disadvantaged children. Largest impact were found for programmes that	Cognitive impacts were greatest for programmes with direct teaching component in preschool Need to examine the community level

(2003) Nelson et al.		children	assessment	related to outcomes. Cognitive impacts greatest for programmes with follow-through to elementary schools.		emotional impacts K-8 ES=0.27 and high school ES=0.33 Parent family wellness at preschool SD=0.33 and K-8 SD=0.30	served African-American children	outcomes of pre-school programmes Length and intensity of interventions important for positive outcomes
Day Care for pre-school children (2000) Zoritch et al.	Preschool children (under 5 years of age)	To quantify the effects of out-of-home day care for pre-school children	7 RCT's & 1 quasi-experimental	All studies showed increase in participant's IQ, significant school achievement and behavioural gains. IQ effect decreased two years after intervention, cognitive gain remained. Increased mother-child play and communication	Long term follow up – increased employment, lower teenage pregnancy, higher socio-economic status and decreased criminal behaviour. Positive effects on mother's employment		Most studies targeted families of lower socio-economic status.	All research carried out in US and targeted at-risk children. Necessary to evaluate effects of day-care for children from different social backgrounds.
The Effectiveness of Early Childhood Development Programs: A Systematic Review (2003)	Children aged 3-5 and classified at risk	To determine the effectiveness of early childhood development programmes	16 experimental or quasi-experimental trials	Significant positive cognitive outcomes in academic achievement, school readiness and IQ. Decrease in retention rated and number enrolled in special education. Increased social competence.	One long term evaluation found significant improvement in high school graduation, employment & reduction in teen pregnancies and arrests. Increased health screenings and	Academic achievement ES=0.35. School readiness ES=0.38. IQ ES=0.43		Early childhood development programmes found to have positive effect on preventing delay of cognitive development and increasing school readiness

Anderson et al.				Positive effect on siblings of participants	dental examinations			
Early Childhood Interventions: Proven Results, Future Promise (2005) Karoly et al.	Children prenatal – 5 years of age	To review the benefits of early intervention	20 experimental or quasi-experimental trials	Early childhood programmes had significant effect on cognitive, behavioural, emotional development. Improved educational performance.	Significant effect in educational attainment, employment and reduced crime activity. Cost analyses show returns to society for each $1 invested extend from $1.26 to $17.07.	Home visiting ES=0.17. Combination programmes ES=0.43		Trained caregivers, smaller child:staff ratio, intensive programmes associated with better outcomes. Economic returns favourable for programmes that focus on home visiting, parent education combined with early education.
The Effective Provision of Pre-school Education (EPPE) Project. (2008) Sammons et al. (2007) Sylva et al.; Sammons et al., 2008	Pre-school children aged 3-7 N=3,000	To investigate the effect of pre-school education on children's development	Standardised child assessment, behaviour profiles, parental and pre-school staff interviews, case studies and observations	High quality pre-schooling related to improved intellectual, social and behavioural development. Quality found higher in settings integrating care and education.	Positive sustained effects in children English, Mathematics and pro-social behaviour found in Year 6. Children in low quality preschool no longer showed benefit in attainment in Year 6	Attended pre-school – outcomes in Year 6 English ES=0.22. Mathematics ES=0.26. Pro-social behaviour ES=0.19	Disadvantaged children benefit from attending pre-school with children from other backgrounds.	High quality pre-school lead to stronger more enduring effects in Year 6. Early start and duration of attendance impacts on effectiveness. Setting with higher qualified staff had higher quality scores.

2. Ensure a Positive Start - School-based Interventions: Characteristics of Review Studies

Study Name	Target Group	Aims	Type of Research	Health Benefits	Social and Economic Benefits	Effect sizes	Impact on inequality	Conclusions and Recommendations
Systematic Review of School Based Programmes (2003) Wells et al.	Children 6-19 years of age	To assess impact of universal school based mental health promotion interventions	17 controlled studies	Positive evidence of effectiveness was obtained for programmes that adopted (i) whole school approach, (ii) implemented for more than on e year, (iii) aimed at promotion of mental health not prevention of mental illness.	Universal mental health promotion programmes found to have significant positive effects	Overall effect sizes not determined; narrative synthesis		Long-term interventions promoting positive mental health of all pupils and that involve changing school climate are likely to be most successful.
Systematic review of the effectiveness of interventions to promote mental wellbeing in children in children in primary education (2007)	Children in primary school	To assess impact of school based interventions	31 studies - 15 RCT's and 16 CCT's (published since 1990)	Long-term whole-school approach that include teacher training and parent component are most effective. Interventions that focus on social competence, emotional literacy	Mental health promotion programmes more effective	Small to medium effect size between 0.15 and 0.27	No evidence for differential effects according to age, gender or ethnic or social group	Need for parental involvement, class-based social and emotional development programmes and long term programmes. Need for research on content and process of delivery. Need for more robust

Adi et al.				and problem solving showed significant positive effects.				trials of school based mental health promotion programmes
Effective /efficient mental health programmes for school-age children: a synthesis of reviews (2004) Brown et al.	School aged children	To determine impact of interventions that aim to reduce problems and promote competencies.	23 RCT's or quasi-experimental	Long-term universal programmes that increase competencies or skills more effective than programmes aimed at reducing negative behaviour. Whole school approach combining interactive activity based programmes more effective.		Effect sizes found to decrease over time for knowledge, skills and behaviour	Programme effectiveness varies by age, gender and ethnicity. Younger children benefit more than older. Cultural or gender sensitive programmes have greater effect.	Need to adopt ecological approach. Need for universal services to enhance protective factors and for tailored long-term interventions for high-risk children. Include cost-effectiveness as part of evaluation
What is the evidence on school health promotion in improving health or preventing disease and, specifically, what	School aged children aged 4-19	To determine effectiveness of health promotion in schools and the health promoting	15 systematic reviews with focus on specific health topic	Programmes promote mental health, that were of high intensity, of long duration and involved whole school approach were most	Health promoting schools approach benefited social and physical environment of school	Moderate to large effects reported in reviews on school based programme that promote		Lack of evidence on all the elements that contribute to effective health promotion programme or to health promoting

is the effectiveness of the health promoting schools approach? (2006) Stewart-Brown		schools approach	or approach	effective. Some peer led approaches found to be effective and valued among students		mental health		schools approach. Conflicting evidence about gender and age issues. Need for process evaluation and cost-effectiveness information .
A systematic review of reviews on interventions to promote mental health and prevent mental health problems in children and young people. (2007) Tennant et al.	Infants, children and young people up to the age of 19	A systematic review of reviews of mental health in intervention for children and adolescents	27 systematic reviews	High-quality pre-school programmes aimed at improving self-esteem and behaviour found effective. School based programmes that incorporate whole-school approach and parental participation more effective.	Mental health promotion programmes more effective than prevention programmes	Parenting interventions ES=0.2-0.6 Interventions that target conduct disorders ES=0.2-0.4; anxiety ES=0.2-0.3 & self -esteem ES=0.3-0.5	Information lacking about effectiveness in different socio economic settings and ethno racial groups.	Lack of follow up data and process evaluation
Health Promoting Schools and Health Promotion in Schools: two systematic reviews. (1999) Lister-Sharp	Children age 5-16	To evaluate the effectiveness of health promoting schools and health promotion interventions	12 health promoting school studies and 32 systematic review of health promotion intervention	Some evidence HP schools have positive impact on social and mental wellbeing. Most of HP interventions increase knowledge, impact on attitudes and behaviour harder to	HP schools has positive impact on social and physical environment of schools			None of HP schools implemented all components of HP schools approach. Multifaceted approach is recommended

et al.		in schools	s in schools	achieve. Interventions that promote mental health, healthy eating and fitness and prevent injuries most likely to be effective.				
The Evaluation of School-Based Violence Prevention Programs: A Meta-Analysis (2008) Park-Higgerson et al.	Children in grades 1-11	To identify and evaluate the characteristics of successful school-based violence prevention programmes	26 RCT's evaluating school based violence prevention interventions	Non-theory programmes more effective than theory-based programmes. Selective programmes showed larger effect size. Single-approach with 4th grade or higher produced more positive results.	No significant effect for violence prevention interventions on intervention groups.	Violence prevention (ES=-0.09) Single approach violence prevention programmes ES=-0.15		Insufficient implementation, lack of cooperation with school staff , lack of parental attendance and extent of high-risk adolescents were reasons why multi-component approach failed.
Systematic review of the effectiveness of interventions to promote mental wellbeing in primary schools: Universal Approaches with focus on prevention of violence and bullying	Children between 4 and 11 years. N=17,268 in RCT studies and 6.600 in CT studies	To review literature on effectiveness of school based violence prevention intervention.	17 studies 11 RCT and 6 CT (Universal approaches only)	Most universal studies showed some positive effects in relation to antisocial behaviour and aggression. Multi-component programmes incorporating school ethos, curriculum, teacher and parent training were found to be most effective			Greater effects in boys reported. High-risk boys found to show more positive effects.	Multi-component programmes that include teacher and parent training are recommended.

				types of programmes. Most studies reported only short term outcomes.				
School-based violence interventions for aggressive and disruptive and behaviour (2007) Wilson & Lipsey	Students from pre-school to high school	To determine effectiveness of violence based prevention interventions	249 experimental /quasi-experimental studies (Universal, selected/indicated, special schools and multimodal programmes included)	Selected/indicated programmes most effective. Programmes found effective at reducing more general types of aggressive behaviour. Multi-component programmes – no significant effect.		Universal programmes (ES=0.121). Selected/Indicated (ES=0.29). Multi-component (ES=0.05). Special school (ES=0.11).	Programmes more effective for students at higher risk for aggressive behaviour. Universal programmes most common- with students from economically disadvantaged backgrounds showing greatest benefits.	Effects larger for better-implemented programmes.
School-based secondary prevention programmes for preventing violence (Review) (2006) Mytton et al	Children in mandatory education	To examine the effect of school based violence prevention programmes for children identified as aggressive or at risk of being aggressive	56 RCT's	Significant reduction in aggressive behaviour, effect maintained at 12 month follow-up. Social skills & relationship skills programmes more effective than interventions that teach skills of non-response to		Aggressive behaviour – ES=0.41	Results were similar for primary and secondary school students. Reduced aggression stronger for mixed sex groups than for boys alone.	Need for longitudinal studies to determine long term impact of interventions. Need for process evaluation and cost-effectiveness.

		(Selected/indic ated programmes)		provocative situations				
A systematic review of school-based interventions to prevent bullying (2007) Vreema & Carroll	Children in primary school	To review school-based bullying prevention programmes	26 studies	Wholes school approach more effective than curriculum interventions. 6 out of 10 curriculum studies showed no improvements.	Whole school approach showed decrease in referral rates, suspension and improved achievement scores.		Most positive outcomes in youngest students.	Whole school approach with multiples components more effective. Implementation of programmes can vary significantly and result in different outcomes (Olweus anti-bullying programme)
A Meta-Evaluation of Methods and Approaches to Reduce Bullying in Pre-Schools and Early Primary School in Australia (2002) Rigby, K.	Children in pre-school, primary and secondary school	To evaluate programmes that aim to prevent / reduce bullying among children	13 experimental /quasi-experimental designs	Success of schools in reducing bullying was not high. Reductions more likely to occur in pre-school and primary school than in secondary school. Mostly reduction in proportions of children being bullied, not proportion bullying others. Programme with	Some reduction in proportion being bullied. Evidence in control schools that bullying increased		No immediate difference in reduction in bullying for boys and girls. However, effect on girls found to be more relatively short-term	Degree of ownership on schools behalf necessary for school success. Degree of teacher commitment also important. Increases in bullying occur in absence of bullying prevention programmes. Need for early implementation.

				specific techniques more effective than general programme.				
Mental wellbeing of children in primary education (targeted/indicated activities)

(2005) Schucksmith et al. | Children aged 4-11 | Examine the effectiveness of targeted/indica ted interventions aimed at promoting the mental wellbeing of children. | 32 RCT's | Brief targeted CBT interventions for children reduce anxiety and prevent the development of symptoms into fullblown disorders.

Some evidence that CBT interventions reduce depressive symptoms. | Brief interventions work better for emotional problems than conduct problems.

Multi-component programmes show positive effects in social problem solving & development of positive peer relations. | Overall effect sizes not reported | | CBT based anxiety prevention programmes have transferred successfully between countries

Co-morbid conditions make intervention delivery difficult. Long term outcome evidence is lacking. Difficulty with parental attendance.

Need to start early with at risk children.

Need to test programmes in different settings |
| The prevention of Depressive Symptoms in Children and Adolescents: A Meta-Analytic Review | Children and adolescents - 20 years of age | To assess the efficacy of depression prevention programmes | 30 RCT's

Universal, selective and indicated | Selective interventions most effective post-intervention. Selective & indicated more effective than universal at follow up.

Indicated studies | | Selective: post intervention ES=0.3,

Follow up ES=.34

Indicated: | Greater effect size at post-intervention for studies with older participants

Greater effect | Selective and indicated may be more beneficial than universal programmes

Prevention programmes need to be adapted to make them gender and |

(2006) Horowitz & Garber			programmes	showed a decrease in depressive symptoms in intervention and increase in control group		post-intervention ES=0.23, follow up ES=0.31 Universal: post intervention ES=0.12 follow up ES=0.02	size for females	culturally sensitive. Need to target multiple components, need to enhance family environment. Need for cost-effectiveness analyses and process evaluation
A review of the effectiveness and appropriateness of peer-delivered health promotion interventions for young people (1999) EPPI-Centre	Young people age 11-24	To evaluate the effectiveness of peer-delivered approaches in the promotion of young people's health.	49 outcome and 15 process evaluations	Some evidence to support effectiveness of peer-delivered approach.	More positive than negative experiences documented. Interventions that take into consideration wider social and cultural determinants of health more successful.		More successful with young women and those at enhanced risk of adverse health outcomes.	Difficult to identify specific characteristics of effective model – need for process evaluation. Competence of provider in facilitating the groups is thought important Need for ongoing support for peer educators.
Effectiveness of Mentoring Programs for Youth: A Meta-	Mentoring between older mentor and young	To determine effects of mentoring programmes	55 experimental / non experimental	Overall positive effect on emotional, behavioural, social competence, academic and career		Average estimated ES 0.14-0.18	Race and gender were not significant moderators of	Relationship quality and intensity significant moderators of effect size. Youth at risk

Analytic Review (2002) DuBois et al.	person	on youth	evaluations	outcomes. Mentor from helping profession provision of ongoing mentor training and structured activities significantly enhanced effectiveness. Inclusion of parent support also significant.			effect size. At-risk status found to be significant moderator. Effect sizes largest for youth experiencing individual and environmental risk factors.	suitable for mentoring due to lack of role models in their lives. Need for process evaluation
Efficacy of Suicide Prevention Programs for Children and Youth (2002) Guo & Harstall	Children / adolescents age 5-19 years	To assess the efficacy and/or effectiveness of suicide prevention programmes	7 cohort studies, 3 RCT's and 2 systematic reviews	Two studies showed significant improvements in depression, hopelessness, stress & anxiety within groups. One study showed improved awareness among general population. Two studies noted improved behavioural and coping strategies.	Insufficient evidence to support/not support curriculum based suicide prevention programmes			Programmes varied in content, frequency, duration and delivery making it difficult to draw general conclusions. Changes most often found within groups (pre/post) rather than between control and intervention.
The positive impact of social and emotional learning for kindergarten to 8th grade students: Findings from 3	Children kindergarten – 8th grade	To summarise the findings and implications of 3 large scale reviews of research	317 studies Universal review: 180	SEL programmes – significant enhancement in children's social-emotional skills, attitudes, reduced conduct problems,	Improved child behaviour, attitudes and academic achievement	Universal programmes Conduct problems & emotional distress	SEL interventions successful across K-8 age range, for school in urban, suburban and rural areas	Interventions that were sequences, activity based, focused and target specific social and emotional problems

| scientific reviews (2008) Payton et al., | N=324,303 | evaluating the impact of Social Emotional Learning (SEL) for children in school | studies. Indicated review 80 studies. after-school review 57 studies | and emotional distress. 11 percentile gain in academic performance at post-intervention. Sustained effects at follow-up. SEL intervention effective in both school and after-school settings and for students with an without presenting problems. | | ES=0.3 Social & emotional skills ES=0.60 Indicated programmes improved attitudes ES=0.77 | and for racially and ethnically diverse student bodies. | were most effective. SEL programmes effective when conducted by school staff |

3. Promoting Meaning and Purpose - Workplace Interventions: Characteristics of Review Studies

Promoting Health and Wellbeing in the Workplace

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
Review of Workplace Interventions that Promote Mental Wellbeing in the Workplace - Draft Report. (Graveling et al., 2008)	General workplace population	To review the effectiveness of workplace interventions aimed at promoting mental well being at two levels: 1. Organisational level interventions 2. Stress Management Interventions	Experimental (RCT, Quasi and non RCT). Sixty-six studies in total (1/3 organisational, 2/3 stress management) Majority of studies outside the UK	*1. Changing organisational practice* – insufficient quality of evidence 2. Stress management interventions: *Training to cope with stress* (22 studies) – mixed evidence *Counselling and therapy* (2) - positive effect on anxiety and depression in short term *Health promotion interventions* (1) – can improve mental well being *Psychosocial Intervention training (2)* – positive impact in short term on burnout		n/a	There is some evidence to suggest that there *may* be tangible benefits. However, there is a variety of methodological shortcomings and a lack of studies in some cases. Not possible to make strong evidence statements. Research base needs to be developed for clearer evidence

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
The Benefits of Interventions for Work-Related Stress (Van Der Klink et al., 2001)	Working populations with imminent or already manifested stress related psychological problems – no major psychiatric or stress related disorder	To determine the effectiveness of occupational stress reducing interventions & populations for which interventions are most beneficial *Four types:* 1. cognitive behavioural approaches 2. relaxation techniques 3. multimodal interventions 4. organisational focused interventions	Meta analysis – experimental and quasi experimental studies	Small but significant overall effect – moderate effect for cognitive behavioural approaches, small effect for relaxation techniques and multi-modal interventions and no effect for organisational interventions		Overall ES (0.34) Cognitive behavioural (0.68) Multimodal (0.51) Relaxation (0.35) Organisational (0.08)	Shorter programmes more effective than longer ones for CBT Nine quasi-experiments without random assignment, eight interventions with no-treatment comparison group and seven had insufficient statistics so effect size estimated
Effects of Occupational Stress Management Intervention Programs: A	Participants from the working population who are not already diagnosed as having a major	To determine the effectiveness of stress management interventions in occupational settings across 5	Meta Analysis: Thirty-six RCT's representing 55	A medium to large overall effect size . Cognitive behavioural and alternative interventions had largest effect sizes		Overall (0.526) Cognitive Behavioural (1.164)	Effectiveness of CBT reduced when other components added to the intervention Intervention type plays a

Meta-Analysis. (Richardson & Rothstein, 2008)	psychiatric disorder n = 2,847	intervention types: 1 Cognitive behavioural 2. Relaxation 3. Organisational 4. Multi-modal 5. Alternative (e.g. journaling, exercise and personal coping skills)	interventions Two-thirds of the studies were conducted in the United States	Cognitive behavioural interventions consistently produced larger effects overall Organisational interventions yielded virtually no effect		Relaxation (0.497) Organisational (0.144) Multi modal (0.239) Alternative (0.909)	moderate role. Limited information on organisational level intervention or outcomes Longer treatment programmes not associated with larger effect sizes Little evidence for long term follow up
A Systematic Review of the Job-Stress Intervention Literature (1990-2005) (Lamontagne et al, 2007)	Review related to general workplace stress interventions – no particular target group	To conduct a comprehensive review of the job stress literature focussing on three levels. 1. High level approach (organisational + individual level intervention) 2. Moderate level approach (organisational level intervention only) 3. Low level approach (individual level intervention only)	Systematic review of job stress interventions (90 studies) Level 1: 30 studies Level 2: 17 studies Level 3: 43 studies Majority of interventions conducted in Europe or the United Kingdom	Individual-focussed interventions positively effect a range of individual level outcomes – no effect at organisational level Level 2 & 3 focussed interventions have favourable impacts at both the individual and organisational levels	Six studies conducted economic evaluation – all found positive results, mainly related to sickness absence and also productivity	n/a	A larger evidence base and stronger study design for individual level studies. However, evidence that effects can disappear over time Recent growth in studies combining organisation and individual level studies Studies without control groups were included in the review which urges caution

The UK Perspective: A Review of Research on Organisational Stress Management Interventions (Giga et al, 2003)	Normal Adult Working Population	To review UK based studies which have assessed the impact of stress management interventions and identify type of intervention, evaluation methods and outcomes	1. RCT (6) 2. Control group without randomisation (5) 3. No Control group (5) Majority of studies related to the individual and relatively few at organisational level	All intervention levels found to contribute to positive outcomes Individual and organisational level intervention more likely to lead to improvements in both employee health and business performance while individual level programmes tended to result in short term psychological benefits	n/a	n/a	Majority of studies aimed at the individual level and relatively few at organisational level Lack of long term evaluation – particularly for organisational level studies Need for research to examine effects of comprehensive programmes spanning all intervention levels
The psychosocial and health effects of workplace reorganisation (Bambra et al, 2007)	Workplace environments undergoing reorganisation in relation to task restructuring	To systematically review the health and psychosocial effects of changes to the work environment brought about by task structure work reorganisation. To determine if those effects differ for socio-economic groups Measures of changes were based on Karasek's Demand / Control Model	Systematic review of experimental and quasi - experimental studies (19) which examined the health effects of inerventions which reorganised task structures	Reorganisation which reduced demand and increased control resulted in improved health, although some effects were minimal. Increases in workplace support did not seem to mediate relationship	n/a	n/a	Only one study differentiated by social status which prevented analysis by socio-economic groups Poor levels of implementation with few interventions greatly alter ing the psychosocial environment. Therefore unrealistic to expect significant health effects.

Preventing Occupational Stress in Healthcare Workers: Cochrane Review. (Marine et al, 2006)	Healthcare workers who had not actively sought help for conditions such as stress, anxiety and burnout 1,564 participants in intervention groups 1, 248 in control groups	To evaluate the effectiveness of person-directed interventions and work-directed interventions in preventing workplace stress in healthcare workers	Systematic literature review: RCT's (14) Cluster-randomised trials (3) Crossover trials (2) Europe = 8 studies (3 UK) North America = 8 Asia = 3	*Person directed interventions* - limited evidence. Interventions that include a CBT approach, combined with/without relaxation techniques can be effective in reducing burnout, anxiety and stress *Work-directed interventions* – limited evidence. Interventions that include communication or nursing delivery change can be effective in reducing burnout and stress			Limited evidence available – most of the studies are small and of poor quality. Larger and better quality trials are needed At best the results are still apparent six months to two years after the intervention Studies are needed comparing person and work directed interventions with one another

Supporting people with common mental health problems to retain and obtain re-employment

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
Workplace Interventions for People with Common Mental Health Problems. (Seymour. & Grove, 2005)	Looked at 3 distinct target groups: Group 1: general workplace population Group 2. those identified at risk (either through their job role or identified through assessment) Group 3. those experiencing mental ill health related sickness	To provide evidence based answers for: (1) general mental health preventative programmes at work (2) minimising sickness absence (retention) (3) enabling those who experience mental ill health to return to work (rehabilitation)	Evidence Review Nineteen experimental studies and 12 non experimental and narrative studies Most of the included studies conducted outside the UK	Strong evidence for: *Group 2* Health Care Professionals (individual approaches) *Group 3* for those with common mental heath problems & mental health related absenteeism (CBT of up to 8 weeks most effective) Moderate evidence for: *Group 1* stress management approaches *Group 3* role of primary care physicians		n/a	Review supports a range of individually focussed approaches to managing common mental health problems at work in target groups 2 & 3 *Identified Issues:* Poor design of studies, volunteerism and lack of follow up. Effects on disadvantaged workers. More focus on different settings. Effectiveness of policies?
'What Works at Work' (Hill et al, 2007)	Those experiencing common mental health problems	Review of the effectiveness of workplace interventions, with an emphasis on work based outcomes	Evidence reviews and systematic reviews (10 in total)	Some evidence for: *Individual level intervention* i.e. reducing psychological ill-health (CBT & multi-modal approaches) Less/mixed evidence in relation to *organisational interventions*	Improvement in work outcomes – mainly absenteeism		Available evidence is limited Lack of robust evaluation Evidence in relation to work outcomes limited Lack of focus on organisational intervention

'Mental Health and Work' (Lelliott et al, 2008)	1. Employees with common mental health problems affecting their work 2. Employees with severe and enduring mental illness	To review the evidence for: 1. interventions to reduce sickness absence 2. Specialist work schemes for people with severe mental illness	12 RCT's and 10 review papers County not specified	Stress management may improve ability to cope with stress or to avoid stressful situations but no evidence for reduction of common mental health problems or reduction of sickness absence Brief individual therapy – mainly CBT – may be beneficial for those whose work is affected by common mental disorder Individual Placement and Support (IPS) has strongest evidence base for those with severe illness to return to competitive employment	A reduction in sickness absence An increased return to paid employment for those with severe mental illness		Little evidence on organisational level intervention – mixed results People with, and at risk of, prolonged work absence should have rapid access to evidence based treatments, including psychological therapies Limited experience operating IPS schemes in a UK mental health service context Economic benefits of IPS unproven.
Reducing Work Related Psychological Ill Health and Sickness Absence. (Michie and Williams, 2003)	Majority of interventions included in review targeted health care workers n=2519	To identify successful interventions which prevent or reduce psychiatric ill health and sickness absence	Systematic literature review Six Interventions identified (3 RCT, 1 matched controlled, 1 uncontrolled , 1 observational) One study from the UK, 3 from the USA & 2 from Scandinavia	A variety of outcome measures used. Main finding for 6 interventions were a reduction in: Study 1 - health complaints Study - depression Study 3 - anxiety, depression, psychological strain, burnout Study 4 - stress hormone	n/a	n/a	Successful interventions used approaches to increase participation in decision making and problem solving, increase support and feedback and improved communication Focus mainly on staff training. Need more evaluation of employment practices and management style i.e. primary prevention More economic evaluation necessary

| | | | Five training programmes and 1 organisational intervention | levels

Study 5 - duration of sickness absence

Study 6 - sick leave | | | |

Interventions supporting people with severe mental disorders to return to meaningful employment

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
The effectiveness of interventions for people with common mental health problems on employment outcomes (Underwood et al, 2007)	People with common mental health problems, either in employment or unemployed	To provide evidence on 'what works' to assist people with common mental health problems to obtain work if they are currently unemployed, or to stay in work if they are currently employed	A systematic rapid evidence assessment (8 studies) Five studies focussing on 'employment' intervention Three studies focusing on 'mental health' intervention Four studies based in the UK	Evidence suggests that 'mental health' interventions can improve the employment status of people with common mental health problems, especially those already employed No conclusive evidence that 'employment' interventions are effective	Improvements in mental health are associated with better employment outcomes for those already employed	n/a	Much greater level of research for people with severe mental health problems than for those with common mental health problems – a paucity of evidence Few studies on those with common mental health problems report employment outcomes
Supporting people in	People with mental illness	To review the evidence in relation	*A systematic review:*	Outcome evaluations: Evidence not conclusive	n/a	n/a	Findings indicate that although training and vocational

accessing meaningful work: recovery approaches in community-based adult mental health services (Dickson and Gough, 2008)	engaging in both community-based adult mental health services and vocational interventions	to recovery orientated training and vocational intervention on non-vocational outcomes e.g. self esteem & quality of life	Twenty-one outcome evaluations (3 UK) The majority of studies from the US (n=16)	in relation to non-vocational outcomes – inconsistent findings in relation to self esteem, social capital, engagement in daily living and quality of life			interventions are shown to have an impact in vocational engagement, vocational engagement is weakly related to non-vocational outcomes Question? might it take longer for vocational gains to manifest as non-vocational gains?
Helping people with severe mental illness to obtain work: systematic review (Crowther et al, 2001)	People with severe mental illness (n = 1,617)	To compare the effectiveness of pre-vocational training (PVT) and supportive employment (SE)	Systematic review (11 RCT's) All US based	People in SE were more likely to be in competitive employment than those who received PVT (evidence found for up to 18 months)	People in SE earned more and worked more hours than those who had had PVT		While data on clinical and social functioning costs were inconclusive, they suggest no major differences between SE & PVT All trails took place in the US which may limit generalisability
Vocational Rehabilitation in Schizophrenia and Other Psychotic Disorders (Twamely et al, 2003)	People with Schizophrenia and other psychotic disorders (66% of people in the included studies had a primary diagnoses) n=1617	To review the current literature in relation to vocational rehabilitation.	Literature review and meta-analysis Eleven RCT's, 9 of which examined Individual Placement and Support (IPS) or Supported Employment (SE)	Outcomes strongly favoured the experimental groups in terms of the percentage of participants who worked at any given point during the studies (mean effect size = 0.66) Within 5 studies comparing IPS/SE intervention with conventional vocational		Experimental groups versus control groups outcomes (0.66) IPS/SE versus traditional vocational rehabilitation (0.79)	Supported employment programmes in general, and IPS specifically, have produced consistently better outcomes than traditional vocational rehabilitation Scope for improvement - almost 50% of IPS/SE participants did not obtain competitive work during the interventions *Limitations*: Small number of

			interventions All US based	rehabilitation, 51% IPS/SE worked competitively versus 18% conventional (mean effect size 0.79)			RCT's in review Number of RCT's on other approaches rather than IPS/SE are limited (2)

4-6. Community-based Interventions: Characteristics of Review Studies

Building a Resilient Safe, Secure Base - urban regeneration, housing

Thomson, Atkinson, Petticrew & Kearns (2006)	All 9 National ABIs (Area based initiatives or national programmes of urban regeneration	To synthesise data on the impact on health and key socioeconomic determinants of health and health inequalities reported in evaluations of national UK regeneration programmes, 1980 -2004	Synthesis. 19 evaluations assessed health and social impacts. Data from 10 were synthesised Evaluations that reported impacts from 2 or more target areas of an ABI were included	Impacts on self-reported health or mortality rates in 3 evaluations. One showed deterioration in ¾ measures. 2 others showed decreased mortality rates.	Overall improvement in employment, education, household income but problems with data collection and negative impacts also reported.	Median size of positive impact reported range 1.0% to 32%, +/- 5%, though these may mirror national trends.	Little evidence of impact on health/ socioeconomic outcomes, often small and positive but adverse effects also occurred. Impact data necessary to inform public policy.

Promoting Integrated Physical and Mental Health & Well-being

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
Public Health interventions to promote positive mental heath and prevent mental health disorder among adults: evidence briefing from NICE (Taylor et al, 2007)	Adults aged over 16 years of age including those with no diagnosed mental disorder, those previously diagnosed with a mental disorder and those in disadvantaged and vulnerable groups	What non-pharmacological interventions are effective at promoting positive mental health and preventing mental health disorders across a wide variety of settings and population groups	Systematic review Twenty recently published review level papers identified Two papers identified relative to primary care (both form UK)	Primary Care Setting: Evidence from the UK that counselling in primary care for people with mental health problems is associated with modest short term improvement		n/a	Gaps in review level evidence – promotion of positive mental health amongst adults in the general population and in the primary prevention of mental disorder, effectiveness of intervention in primary care, effectiveness in reducing health inequalities and cost-effectiveness
The clinical effectiveness of counselling in primary care: a systematic review and meta-analysis (Bower et al, 2003)	Those with common mental health problems attending primary care	To assess the current evidence base in relation to the effectiveness of counselling in primary care	Seven randomised controlled trials and controlled clinical trials, 5 of which compared counselling with usual general practitioner care All trials based in UK	Greater clinical effectiveness of counselling compared to GP care in the short term but no effect in the long term		Short term effects standardised mean difference – 0.28 Long term effects standardised mean difference - 0.07	Counselling may not differ form other treatments in primary care in terms of effectiveness Counselling may be a useful addition to primary care treatment of mental health services
Effectiveness	Patients with	To assess the	Eight	Short term (6 trials) there	Some evidence	Short term	Counselling may result in

and cost effectiveness of counselling in primary care: Cochrane review

(Bower & Rowland, 2006) | psychological problems considered suitable for counselling

Sample size not provided | effectiveness and cost effectiveness of counselling in primary care

This review is an update of Bower and Rowland (2003) | Randomised control trials (UK based) | was significantly greater clinical effectiveness amongst counselling group compared to usual care. No effects in the long term (4 trials) | that the overall costs of counselling were comparable to usual care | effects standardised mean difference - 0.28.

Long term effects standardised mean difference - 0.09 | some reductions in health care utilisation, but overall costs do not seem to be reduced |
| Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: a meta analysis

(Spek et al, 2007) | Clinical patients and subjects recruited from the community - over 18 years of age

n=2334 | To assess the effectiveness of internet based CBT programmes on the symptoms of anxiety and depression | A meta analysis of 12 randomised control trials comparing internet based CBT with control groups such as waiting lists, treatment as usual or placebo

County information not given | Overall a moderate effect size with stronger effects for treatment outcomes than prevention outcomes

Stronger effect for anxiety over depression

Comparison of depression or anxiety symptoms versus inclusion of support suggest support is a more important variable than type of problem | | *Outcomes:*

Treatment 0.40 Prevention 0.03

Depression 0.22

Anxiety 0.96

Support 1.00

No support 0.26 | Study indicates that internet based interventions, especially those with therapist support, are effective

However, more research is needed

Observed differences between anxiety and depression may be related to amount of support provided.

Limitations: Low numbers of studies & differences in numbers of participants across depression and anxiety studies |

Interventions for older people (self-help, bereavement support, befriending, volunteering programmes, physical activity and exercise)

Study Name	Target Groups	Aim	Type of Research Covered	Health Benefits	Wider Social and Economic Benefits	Effect Sizes	Conclusions
Taylor, Taske, Swann et al (2007)	Adults aged >16, either from general population or those predisposed to mental disorders	To review reviews, identify non-pharmacological effective interventions, cost-effectiveness and gaps in relation to promoting positive mental health and preventing mental disorders in adults	Systematic reviews, syntheses, meta-analyses & review level papers on non-pharmacological interventions. 20 review-level, papers. English 1995-2004 Five themes: Settings, Population groups, Life events and transitions, Topics, Cost-effectiveness	A range of benefits reported across the five theme areas reviewed.	Little review evidence found on the cost effectiveness of interventions. Lack of research on the effectiveness of interventions in reducing health inequalities.	Narrative synthesis	Further review work is recommended to address gaps in the evidence (both primary research and review level evidence) identified in relation to the effectiveness and cost-effectiveness of interventions for the general adult population. Further systematic reviews of mental health promotion and prevention interventions in the community, workplace and primary care settings and required. Systematic reviews needed of the mental health impact of social interventions to reduce inequalities.
Pinquart & Sorensen (2001)	Older adults Median age >55	To examine the effectiveness of psychosocial and	Meta-analysis of 122 studies.	In all studies significantly improved self-reported psychological wellbeing,	Interventions were found to be more effective	Estimates for self-reported psychological	Further research needed on long term impacts & on greater variety of interventions

		psychotherapeutic interventions with older adults.		particularly for control-enhancing interventions, CBT & relaxation.	in; nursing-home residents (mean ES: 0 .58) than adults living in the community (mean ES: 0.40); for individual interventions (ES: 0.55) compared with group (ES: 0.42), by specialist therapists (ES: 0.69) compared with non specialists (ES: 0.37).	wellbeing	to validate findings
	N=3,718		Compared intervention group with untreated control group.			Mean ES: 0.45, 95% CI 0.40 to 0.50; t=19.53; p<0.001	
			Engl/French/ German				
Papworth & Milne (2001)	2 `all `adults	To assess primary prevention efforts (to > one adult at a time) aiming to prevent MH problems	Qualitative systematic review	Older adults - improvement in self-rated life satisfaction scores & community knowledge		Qualitative review	There is insufficient review level evidence that universal primary prevention programmes (delivered to a representative sample of the general population) comprising a cognitive behavioural approach can improve mental health and behavioural outcomes. Some positive effects reported for a cognitive behavioural video of an intervention. Further high quality research is warranted.
	12 selective workplace		14 primary studies.				
	3 negative life events		(2 universal 12 selective)				
	8 population subgroups		None from UK.				
	(1 older adults >55; 2 minority ethnic; 1 disadvantage d; 4 carers)		Older adults > 55: a before-and –after				

Tilford, Delaney & Vogels (1997	Many settings. 1 all adults; 7 Older adults; 12 Family Carers; 6 Parenting; 1 Minority Ethnic Groups. Also, 12 life-events and transitions; 6 topic specific.	To assess effectiveness & impact of mental health promotion interventions	A review of 72 studies: 3 on all older adults, 4 on at-risk or vulnerable older adults.	Interventions offering buddying and self-help network or group-based emotional, educational, social or practical support to at risk (widowed) are effective in enhancing self-reported health.	Buddying, self-help or group-based interventions lead to improved social functioning and adjustment.	n/a	Limited number of studies that specifically focus on older people. Intervening at key life transitions – death of a partner, retirement – may be beneficial. Support for exercise, self-help and group-based programmes and pre-retirement interventions provided by peer counsellors
Wheeler, Gorey, Greenblatt (1998)	Older volunteers. Mean age: 71. Maj. White, Female not married now N range 15 to 2164 Clients: minimal data .N range 54 to 739.	To assess the benefits of volunteering for both the older volunteers and clients	Meta-analysis Majority before-and-after studies. 34 USA studies 3 Canada. 29 focussed on effects on volunteers, 9 on clients. 1 on both. 29 studies reported Quality	Significant association between volunteering and QoL when results from 29 studies combined Direct help volunteers (mean r-index = 0.358, SD = 0.134) showed greatest benefit compared with indirect help volunteers (mean r-index 0.173, SD = 0.132) 8 /10 scored higher than non-volunteers in QoL,	Significant beneficial effect on quality of life of older volunteers who participate in direct, face-to-face helping relationships	n/a	Volunteering by older people improves their QoL. Direct help of more benefit than indirect.

			of Life (QoL) outcomes.	based on 37 studies (not the 29 volunteer only studies)			
Van Haastregt, Diederika, van Rossum et al. (2000)	Older people >65 yrs 9 trials >75 yrs 6 trials:	To assess if preventive home visiting improves the health of >65 in community	Systematic Review 15 RCTs 5 categories of outcomes: including 1 psychosocial (8 trials)	Only 1 trial had favourable effect, an UK study reporting positive impact on attitude to ageing, loneliness, isolation, emotional reaction Other 7 no significant effects		n/a	The effects of home visits appear to be modest and inconsistent between trials, and home visits may be costly and time consuming. Most trials gave few intervention details. Wide range of intervention types may weaken the strength of findings.
Windle, Hughes, Linck et al., (2007).	Adults >65 yrs. Many small samples, self-selected, majority women, few frail or >80, none BMEGs	To review effectiveness, cost-effectiveness & gaps in public health interventions to promote mental well-being.	Systematic review. All study designs considered. 96 papers included (2 for cost – effectiveness 94 for effectiveness)	Robust positive evidence statements concerning the benefits of exercise for the mental health and well-being of older people. Positive findings reported in relation to the effectiveness of group-based health promotion interventions for older people.	There is a shortage of robust evidence on the cost-effectiveness of interventions for older people.	n/a	Reasonably strong evidence that exercise programmes, group-based health promotion and cognitive training can have beneficial effects on the psychological well-being of older people. Few studies focus on frail older people and those over 80.

			Including 4 meta-analyses, 14 good quality trials, 69 poor quality quantitative studies, 8 qualitative studies.	Cognitive training and control enhancing intervention techniques lead to improved reported well-being.			Few interventions targeted at alleviating poverty and none at people from ethnic or sexual minorities.
Cattan M, White M, Bond J, Learmouth A (2005)	Older people - age as defined in studies N=6,556 Categories: Group 17 `1-to-1` 10 Service provision 3 Community Dev 1	To determine effectiveness of health promotion interventions that target social isolation and loneliness among older people.	Systematic review. 16 RCTs; 10 non-randomised controlled trials. One study had an RCT, a community intervention trial and a dissemination study.	Significant reduction in social isolation/loneliness in group interventions. Majority of one-to-one interventions in people's homes were not effective.		Overall effect sizes not reported	Group interventions providing an educational input, or targeted social support activities for specific targeted groups , found to be effective. Unclear as to the effectiveness of home visiting & befriending.
McAuley &	Older adults	To assess physical activity in	A Review.	Improved PWB.		n/a	Positive association between PWB & physical activity but

Rudolph (1995)	>45 N=12,169 Av age=57	enhancing positive wellbeing (PWB) in older people	38 studies. 29 had an exercise stimulus 19 had control groups 10 no control group	Longer programmes have greater effect. Improved physical fitness			unclear as to causal relationship. Phys activity rather than physical fitness related to improvements in PWB. No association between age, physical activity & PWB. Further investigation required.
Arent et al 2000; Netz et al., 2005 Many developed countries	>65 yrs. Community based. Majority healthy, independent, motivated to take exercise	To examine effect of physical activity on psychological well-being of older people Mixed exercise	Meta -analyses comprising 68 controlled trials plus 4 more since	Strong evidence that mixed exercise programmes have small -to-moderate effects on mental well-being. Beneficial physical effects.			Exercise of moderate intensity has beneficial effects on psychological well-being of older people. Well organised. Trained instructors Findings apply UK
Schechtman & Ory (2001)	Frail older independent people 65 +	To examine benefits strength /resistance exercise in frail elderly.	Meta-analysis of of 4 RCT trials (US)	Significant small to moderate improvements in emotional health.			Findings likely to apply to frail older people in range of settings in the UK

US	N = 1733						

Appendix 2: Mental Health Promotion and Primary/Secondary Prevention:

Characteristics of Individual Studies.

1. Ensure a Positive Start - Early Years Interventions: Characteristics of Individual Studies

Home Visiting

Programme/ intervention	Target group -	Aims of the intervention	Risk and protective factors	Type of research	Health impact	Social and economic impact	Impact on inequality	Implementation issues
Community Mothers Programme (Trained experienced mothers from the local community visit families to provide support)	Socially disadvantaged first-time or second time mothers of children from birth to twenty four months.	Aims to aid the development of parenting skills and enhance parents' confidence and self –esteem by providing support to first-time parents in rearing their children up to 1 year of age	Social deprivation; Parenting skills; Maternal self-esteem Mutual support; Empowerment;	Experimental design (RCT): experimental/ control group	Improved maternal psychological health Increased immunisation rates Better dietary	More positive maternal feelings; Increased maternal involvement in personal development programmes Increased rates of mothers	Seven year follow up found that beneficial effects were sustained with benefits extended to subsequent children.	CMP has been successful in achieving positive outcomes for parents and the empowerment approach has been shown to be effective.

Study	Sample	Aim	Focus	Design	Results		Conclusion	Implications
Molloy 2008, 2002 Johnson et al., 2000, 1993 UK and Ireland					intake.	reading to their children;		
Mother-Infant Intervention Project (Women were visited in their homes by previously untrained lay community workers who provided support and guidance in parenting (Cooper, et al., 2009; Cooper, et al., 2002) South Africa	At risk mothers and their newborn infants in a South African peri-urban settlement (informal settlement of shacks) with marked socioeconomic circumstances (n=32, n=449)	Encourage the mother in sensitive, responsive interactions with her infant and to sensitise the mother to her infant's individual capacities and needs.	High levels of unemployment and poverty. Most homes without running water and considerable overcrowding Secure parent-infant attachment; Parental emotional resources; Social support and information; Parent education and empowerment	Quasi-experimental design (pilot study n=32); RCT n=449	Mothers were significantly more sensitive and less intrusive with their children. Infant attachment was significantly higher. Prevalence of depression was lower though not significantly but there was a significant benefit in maternal mood at six months.		A home based mother-infant intervention, delivered by trained lay therapists in the context of socioeconomic disadvantage, has positive benefits for both maternal responsiveness and children's emotional development	Potentially sustainable intervention which could be 'scaled up' in developing countries with relatively limited resources
Child Development	First time parents;	Empower	Parenting;	Quasi-experimental	Significant reduction in	41% lower rate in the Child		

Programme	Parenting problems	parents	Self-esteem; Self-control; Social support	design: Experimental matched community	morbidity: 5.25 per 1000 on child problem register:	Protection Register		
(Home visiting programme of monthly visits lasting one hour over a period of three years.) (Barker et al., 1992) UK	Largely from lower SEG (n=30,000)							
Prenatal and Infancy Home Visitation by Nurses (Nurses visit mothers beginning during pregnancy and continuing through children's second birthday) (Olds et al, 2007a, Olds et al 2007b, Olds et al 1999) USA	Low-/income, unmarried and adolescent pregnant women having their first child	To improve pregnancy outcomes; to promote children's health and development, and to strengthen families' economic self-sufficiency	Low- income Single parents Adolescent	Three RCTs: Longitudinal studies Elmira (n=400), Memphis (n=1138) and Denver (n=725 Women were randomized to home visiting during pregnancy and the first two years of their children's lives or comparison services (pre-natal, well-child care and	Improvements in diet Decrease in smoking during pregnancy Fewer pre-term deliveries Children had fewer injuries and hospitalisations. Impacts on child development and better behavioural and educational	Women more likely to enter employment and delay subsequent pregnancies The savings to government and society for serving families in which the mothers were low income and unmarried at registration exceed the cost of the programme by a factor of four over the lives of the children	Long term benefits were greater for families at greater risk. Many improvements were made and sustained that have a positive impact on inequality.	Adapt to local conditions and to fit cultural context. Foster community support. Monitor implementation. Nurses should undertake training regarding racial and ethnic diversity. Engaging family members and friends will help integrate programme

					sensory & developmental screening and referral for a child with potential problems)	outcomes			delivery.
Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women\n\n(Morrell et al, 2009)\n\nUK	Antenatal women over the age of 18 who had no severe mental health problems.	To evaluate benefits for postnatal women of two psychologically informed interventions by health visitors.\n\n(Health visitors were trained to identify depressive symptoms and to use assessment skills to assess a mother's mood including suicidal thoughts)	Pregnancy	Prospective cluster trial randomised by general practice, with 18 month follow up.	Training was effective in reducing the proportion of women with postnatal depressive symptoms at six and 12 months postnatally.				The trial contributes new evidence to indicate that training in psychologically informed approaches can be recommended for health visitors to enable them to identify PND symptoms and enhance the psychological care of postnatal women.
Nurse Visitation for Adolescent Mothers: two year infant health and maternal	Adolescent mother and their children from birth to 2	To reduce morbidity and unintentional injuries and	Young mothers\n\nDisadvantage	RCT (n= 111) . n=56 were assigned to the experimental	Significant reduction in non birth related infant	Less days of hospitalisation and fewer episodes of			Improved selected areas of infant and maternal health,

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outcomes. (Preparation for motherhood classes plus intense home visitation by PHNs from pregnancy through 2 years postpartum (Koniak-Griffin et al., 2003)	years of age (n= 56) Predominantly Latina and African American	hospitalisations		group and n=45 to controls	hospitalisations during the first 24 months Non intervention mothers reported a significant increase in the use of marijuana over time whereas EIP mothers did not.	hospitalisation. Significant reduction in repeat pregnancy at two year follow up.		improvements were sustained for a period of 1 year after end of programme. These findings have important implications for healthcare services.

Parenting

Newpin - New Parent Infant Network (Befriending scheme supporting young families) Cox et al 1991 UK	Parents of preschool children who are experiencing depression. Likely to be single mothers who are socially isolated and have had adverse experiences in childhood or	Assist families with young children by alleviating distress, promoting mental health and good relationships and preventing abuse of children	Single mothers Depression Social isolation History of adverse experiences	Comparison design (controls were from another area and not fully matched)	Significant improvements in the psychiatric condition of mothers, but only after six months. Improvement in parents' abilities to recognise and meet their children's needs.	Increased understanding of others		These findings point to the possibility of developing volunteer projects which can engage mothers. Training is important to develop self-confidence and self-esteem

	early adulthood. N=40							
COPEing with Toddler Behaviour (A parent training group program focusing on parenting styles and strategies for parenting children in late infancy/ toddlerhood) (Allison Niccols, 2009) Canada	Parents of children (12-36 months) exhibiting or at risk of behaviour problems N=79	To help parents reduce child behaviour problems and improve parenting behaviour.	Child behaviour problems, over reactive parenting Positive parent-child interaction, parenting behaviour and parent functioning	RCT (N=79) Mothers were randomly assigned to an eight session training programme or a control group.	Parents benefited in terms of more positive parenting behaviour, less overreactivity and depression. Their children exhibited fewer behaviour problems and more positive behaviour and compliance	Implication of widespread implementation may include reduced costs to the social service, system, increased access, and more positive outcomes for children.		As part of a community strategy, groups such as COPEing with Toddler Behaviour may promote positive parent-child interaction and children's mental health.
Incredible Years Parent-Training program (Videotaped scenes are used to encourage group discussion , problem-solving, and sharing of ideas)	Children aged 2-10 who are at risk for, or who are exhibiting, conduct problems and their parents and teachers. Parents may be self-referred to	Preventing, reducing and treating aggression and conduce problems in young children. Additional	Early-onset behavioural problems. Positive parenting Teaching skills	Many studies since 1982 – mostly RCT	Reduction in aggressive and destructive behaviour (BP) Increase in pro-social (BP & AP) behaviour. A study in the	Parents (AP) showed increases in observed marital problem solving A study in the	Interventions have long terms effects and are not differentially affected by child's gender, ethnicity of parent, education or social class of	Demonstrated high effectiveness on a range of parent and child outcomes. Findings are limited to short-

(Webster-Stratton et al., 2004) Patterson et al., 2002 UK, Reid et al., 2002)	the program or referred by a professional.		Parental involvement with schools and other potential support systems.		Average risk undiagnosed 2-5 in a community sample showed decreases in oppositional and defiant behaviour. Parents showed reductions in spanking, use of corporal punishment, critical statements and other negative discipline.	UK (Edwards et al 2007) found that this programme improves child behaviour at a relatively low cost and was cost effective compared with the waiting list controls, suggesting it would represent good value for public spending.	parent. IY is accepted by and effective with diverse populations.	term results and it is unknown whether the differences would be maintained in the longer run thought a handful of longer term studies showed some significant extended effects.
Promoting Mental Health after Childbirth: A controlled trial of primary prevention of postnatal depression Elliott et al., (1998, 2000) UK	Psychosocial intervention to prevent postnatal depression where vulnerable women expecting their first or second child were allocated to a prevention programme.	To promote positive mental health in women and prevent postnatal depression	Vulnerable to depression Social support Normalizing and empowering	A controlled trial (n=99)	Significantly more positive mood in intervention group Successful with first-time mothers without a history of consultation for mental health problems.	Means of early identification and access to non-stigmatizing individual help		This type of intervention of may have a function in terms of anticipation or early identification of problems and prompt appropriate help seeking.

								Some depressions following childbirth can be prevented by brief interventions that can be incorporated with existing systems of antenatal classes and postnatal support groups.

Early Childhood Care/Pre-School

Programme/ intervention	Target group	Aims of the intervention	Risk and protective factors	Type of research	Health impact	Social and economic impact	Impact on inequality	Implementation issues –
Healthy Families New York (Community-based prevention program to improve the health and well-being of children at risk for abuse and neglect through the provision of home visitation services 0-5 years). (DuMont et al., 2007 Mitchell-Herzfeld et al, 2005) USA	Women who are pregnant or have recently given birth and are deemed to be at risk for abusing or neglecting their children. (n=1,173)	To prevent child abuse and neglect; enhance positive parent-child interactions; promote optimal child health; increase parents' self-sufficiency. Build problem-solving skills; Strengthen family support networks;	Teen pregnancy, substance abuse mental illness, domestic violence, welfare receipt. Low psychological resources.	RCT: Families meeting the assessment criteria were randomly assigned to either and intervention group that was offered HFNY services or to a control group that was given information and referral to other appropriate services. HFNY n=579	Reported fewer acts of abuse and neglect of their children Less physical aggression and psychological aggression toward their children Fewer low birth weight babies More like to breastfeed In one site parents consumed less alcohol, less likely to use illicit drugs	More likely to have health insurance for children (2005)	Impact on prevalence and frequency of neglect were the greatest for Latina parents. (2005)	HFNY holds promise for reducing abuse and neglect among at-risk families in NY state. (2005) Who is offered home visitation may be an important factor in explaining the differential effectiveness of home visitation programs. Improved effects may be realized by prioritizing the populations served or by enhancing the model to meet

				Control n=594	and were less likely to report symptoms of depression. (2005)			program objectives for hard-to-serve families. (2007)
Surestart (Supports young children and their families by integrating early education, childcare, healthcare and family support services in disadvantaged areas. Melhuish et al., 2008 ; Belsky et al, 2006 ; Carpenter et al. 2005 ; Glass , 1999) UK	Area based programme with all children under 4 years and their families living in a prescribed area serving as the "targets" of the intervention.	Aim is to improve the health and well-being of families and young children, so that children will have a greater opportunity to do well in school and later in life using a local led and local delivered programme.	Deprived community Teen parents Lone parents Workless households Family support Social support Improved access to early education and play; health services; family support; advice on nurturing.	Quasi experimental cross sectional study (n=19,112) Interviews and cognitive assessments carried out with 16,502 intervention mothers and 2,610 controls (2006) The 2008 study looked at 9,192 intervention mothers and 1,879 of controls	Limited and small effects (2006) Less negative parenting; Better social development; Higher levels of positive social behaviour which appeared to be a consequence of the SSLP benefits upon parenting: Higher immunisation and fewer accidental injuries (interpret with caution as there may other factors affecting these)	Sure Start principles were evident in operation of programmes which were providing a range of preventative, non-stigmatising services and were making efforts to engage 'hard to reach' and minority ethnic families in their areas.(2005)	Beneficial effects on the least socially deprived and no adverse on the most dis-advantaged (2006) Effects appeared to apply to all the resident population rather than positive and negative effects for different subgroups in the earlier (2006) report	Long term follow up s reveal beneficial effects that were not detected initially. The second phase had the opportunity to learn from the results of the earlier study especially with respect to the need for greater effort to reach the most vulnerable families.

Home Start (Volunteer home visiting support to families with children under five years of age. (McAuley et al., 2004) UK	Families with children under five years old where mothers were experiencing a high level of parenting stress and exhibiting a high level of depressive symptoms.	Empower parents; Increase confidence and independence of the family; Promote mental health of children	Social support; Self-esteem; Stress Financial stress	Quasi-experimental design (n=162) Intervention group n=80 and control n=82	Increase in parental self-esteem; Increase in coping ability; Decrease in family dysfunction	Reported positive benefits in parents' lives and family functioning	Four-fifths of the mothers valued the service and considered that it had made a positive difference to their lives	The evidence does not point to a cost-effective advantage for Home-Start . However, mothers who used the service clearly valued the support of the volunteers and this is in line with earlier studies of Home-Start over 30 years.
Early Head Start (A comprehensive, two-generation programme that focuses on enhancing children's development while strengthening families. Programmess can be home-based, center-based or a mix)	Provides child development services to low-income pregnant women and families with children < 3. 10% of places on program must serve people with disabilities. Up to 10% may be used to enrol families with incomes above	Examine the impact of the program on child and parent outcomes	Incomes at or below the federal poverty level.	RCT (n=3001) Families were randomly assigned to the programme (n=1,513) or the control group (n=1,488)	Higher performance in children's cognitive and language functioning Parents were more emotionally supportive in play with the children and showed more warmth toward the child	Parents more likely to read daily: Less likely to spank Early Head Start Mothers were less likely to have subsequent births in the two years after enrolment.	More positive impacts for African American and Hispanic families. EHS brought AA children and families closer to the levels of other racial groups in development outcomes.	EHS Programs had significant impacts on a range of child and parent outcomes when the children were 3 years old; Strongest and most numerous impacts were for programs that offered a mix of home-visiting and center-based

(Love et al., 2005, & Love et al., 2002 Chazen Cohen et al., 2002.) US	the poverty level N=3001 families (17 programs)				Reduce parent-reported early aggressive behaviour. Parents reported significantly less depression	Positive impacts on parents regarding education, job training and employment. Increased school attendance among teen parents		services and that fully implemented the performance standards early.
The Abecedarian Project (Early Childhood Education: Young adult outcomes from the Abecedarian (ABC) Project) (Campbell et al., 2002)	At risk children beginning at 6 weeks of age and continuing until kindergarten. 98% African American (N = 111)	To improve the school readiness and later school performance of children from very low-income, multi risk families	Low income Low levels maternal and paternal education Low maternal intellectual development Single parenthood No close maternal relatives	RCT n=111: n=57 randomly assigned to programme and 54 randomly assigned to control group. Studied for five years. Longitudinal prospective follow up at age 21 (n=104) (2002)	40% of mothers in the ABC group were highly engaged with their children compared with 20% in the control. ABC scored higher on tests of cognitive ability At 21: Reported reduction in marijuana use Reduction in teenaged	At 21 ABC had significantly more years of total education, were more likely to attend a 4-year college. Preschool treatment was associated with educationally	Study demonstrates that a high quality child care program can have a lasting impact on the academic performance of children from poverty backgrounds.	The positive findings with respect to academic skills and increased years of post-secondary education support policies favouring early childhood programs for poor children

			Use of public assistance Unemployment Mental health problems		pregnancy	meaningful effect sizes on reading and math skills that persisted into adulthood.		

2. Ensure a Positive Start - School-based Interventions: Characteristics of Individual Studies

Universal Mental Health Interventions

Programme & Country	Target Group	Aims & Objectives	Risk and Protective Factors	Type of Research	Health Impact	Social and Economic Impact	Impact on inequality	Implementation Issues
PATHS Programme (Promoting Alternative Thinking Strategies) Greenberg et al. (1995) (US)	School age children in grades K-6 N=286	Violence-prevention curriculum that promotes social and emotional learning (SEL), character development, and bullying prevention,	Social, emotional, cognitive and behavioural skill development. Self-efficacy, resiliency, recognition of positive behaviour and prosocial norms	Experimental design (RCT)	Significant improvement in children's emotional vocabulary and understanding, sense of self-efficacy and interpersonal problem solving. Continued effects found at one year follow up. Lower aggression and passivity levels also reported	Improved overall cognitive skills and reduced aggressive behaviour	Children in special needs group showed significant improvements in emotional & social competence, empathy, and ability to resolve conflicts.	Three day teacher training. Lessons taught three 30 minutes lessons per week

Zippy's Friends Mishara & Ystgaard (2006)	Children age 5-7 N=850 children from Lithuania & Denmark	Aims to help young children expand their range of effective coping skills	Coping skills Social skills, Emotional skills, Problem solving skills	Quasi experimental design	Significant short term effects on children coping skills, social skills and empathy.	Significant decrease in behaviour problems		Two day teacher training. Similar results found in both countries. 24x 45min class sessions
Aussie Optimism (Australia) Rooney et al., 2006	Children in middle primary, upper primary and lower secondary school	Aims to Promote mental health and prevent depression and anxiety in childhood and early adolescence.	Positive thinking, social life skills, coping strategies and problem solving	Experimental Design (RCT)	Reduced depressive symptomatology and improved attributional style post-intervention. Effects not maintained 18 month follow up. No effect found for anxiety symptoms.	Intervention effect for children with depressive disorders.	Schools from low socioeconomic areas	Teacher training. 8x60 minute class sessions.
FRIENDS universal intervention Lowry-Webster et al., 2001,	Children age 7-11 and youth age 12-16 N= 120 aged 8-9	Aims to prevent childhood anxiety and depression and to build emotional resilience	Promotes self-esteem, positive thinking, problem solving, psychological resilience, self-expression and building positive relationships	Experimental Design (RCT)	Significant decrease in anxiety symptoms. Intervention gains maintained at 12, 24 and 36 month follow up.		Fewer high-risk students at 36 month follow-up intervention group. Females reported significantly	Teacher training. Programme implemented as part of school curriculum 8x60 minute class sessions

2003, 2006 Barrett et al., 2006							lower anxiety at 12 month and 24month follow up but not at 36 month.	
Seattle Social Development Project – Hawkins et al., 2005	Children age 6-11 N=605	Aims to reduce risk factors for drug abuse, school drop-out and delinquency.	Improve classroom management, children's social, emotional skills and parenting practices during elementary grades	Non-randomised controlled trial, Longitudinal study: 9 years	9 year follow up, full intervention group: (i) significantly better functioning in schools or at work (ii) reported significantly better regulation of emotions and fewer suicidal thoughts than part intervention or control	Intervention group significantly less likely to be involved in crime, to have sold illegal drugs and to have official lifetime court record at age 21	Schools served high-crime neighbourhoods. Children from families of low socioeconomic status. Women in full intervention showed reduced anxiety symptoms at 9 year follow up.	Teacher & parent training. Full intervention group received on average 4.13 years of intervention exposure (through grades 1 to 6). Late intervention group received on average 1.65 years. Control group received no intervention.
Raising Healthy Children Catalano et al., 2003	Children in 1st & 2nd grade N=938 from 10 schools	Multi-component programme aims to promote positive youth development while reducing antisocial behaviours.	Proactive classroom management, reading strategies, interpersonal and problem solving skills.	RCT (1.5 year follow up)	Increase in students social competency, and prosocial behaviour	Improved academic performance among programme students. Decrease in students antisocial behaviour	Reduction in male antisocial behaviour, no change in female antisocial behaviour.	Both parents and teachers received training pre-intervention.

Whole School Approach

Programme & Country	Target Group	Aims & Objectives	Risk and Protective Factors	Type of Research	Health Impact	Social and Economic Impact	Impact on inequality	Implementation Issues
MindMatters Hazell et al., 2005	Secondary schools: entire school community N=534 staff members & 1345 students	Provides a framework for mental health promotion in Australian secondary schools	Encourages the development of partnerships between schools, parents, and community support agencies to promote mental wellbeing of young people	Non-experimental design: Case study of 15 schools, 4 year study	MindMatters resulted in review of policies, links with community agencies, curriculum changes, support for at risk, decrease in bullying, increase in school connectedness, help seeking, knowledge & awareness about mental health	Schools reported stronger school ethos and shared understanding of wellbeing. Number if days of use of alcohol and marijuana lower at three-year follow up across schools	Rural/remote areas did not have similar access to training as urban areas, less of an uptake in these areas.	Involvement of school community in the planning was low. Barriers to implementation include funding, limited time and competing priorities, large school size, staff turnover.
Child Development Programme Battistich et al, 2000, 2004	Primary schools: entire school community N=1,246 students	Aims to increase the sense of community within schools in order to promote children's connectedness to school as well as their social,, emotional and intellectual development.	Promotes development of supportive relationships, resilience, social, emotional and decision making skills	Quasi-experimental design. 24 elementary schools	"High implementation" schools reported (i) positive effect on students' school related attitudes and motives, social skills and values (ii) reduction in problem	Increased academic performance and commitment to school Decrease in antisocial behaviour		Substantial variability in implementation across the 12 schools. When implemented throughout the school, larger number of significant outcomes for

					behaviours.			students.
					4 year follow up: students more engaged in and committed to schools, were more prosocial and engaged in fewer problem behaviours than comparison students.			4 yr follow up, 'high implementation' students had higher academic performance and less antisocial behaviour
SEAL (UK) Primary Behaviour and Attendance Strategy Pilot 2003-2005 Hallam et al., 2006	Children in Primary and Secondary School N=156 teachers, 26 parents and 4237 pupils	Improve attendance and behaviour by addressing inter-related issues at the whole-school level, in the classroom and in relation to individual pupils.	Improve teacher skills and confidence through CDP training. Develop children's social and emotional skills, empathy and motivation	Pilot Study 16 schools, pre-post evaluations	Teachers reported improvement in their skills and confidence in promoting positive behaviour . Teachers reported positive impact on children's behaviour, wellbeing, confidence & social and emotional skills. Improved behaviour in playground. Girls scored higher in self-esteem, emotional awareness &	When the programme was implemented across the school, a positive impact on the school environment was reported. Improvements in national English and Mathematics scores at KS2 Positively affected absenteeism and	At risk children: improvements in emotional symptoms and pro-social behaviour. Key Stage 2 positive age related changes in social skills and relationships.	Training in school improvement was highly valued by teachers. For effective dissemination in schools, trained staff member needed to be in an influential position in school. Need for ongoing support to staff and a need for formal training for working with at risk children. Need for whole

					motivation pre and post-intervention Majority of parents positive about programme.	attainments scores.		schools community engagement. Parents reluctant to get involved in programme.
Gatehouse Project Patton et al., (2006) Bond et al, (2007)	Secondary school students N=2463 year 8 students	Aims to build the capacity of schools to promote emotional well-being, by increasing individual and environmental protective factors. Multi-level approach.	Individual level cognitive and social skills development. Environment level enhancing communication and social connectedness	Cluster randomized trail 25 schools	Lower rates of substance use, antisocial behaviour and later initiation of sexual intercourse among students in intervention group. Both intervention and control group evidenced a decrease in emotional problems at 4 year follow up.	Positive long term effect in reducing health risky behaviour		Successful implementation occurred when the programme was perceived to meet the needs of the individual schools. Involvement of key stakeholders in the school community essential.

Violence Prevention Interventions

Programme & Country	Target Group	Aims & Objectives	Risk and Protective Factors	Type of Research	Health Impact	Social and Economic Impact	Impact on inequality	Implementation Issues
Bullying Prevention Programme Olweus (1991)	Students (6-15 years old) N=2,500 children in 42 primary and secondary schools	Reduce existing bully/victim problems inside and outside the school setting: Improve peer relations.	Whole School Approach School climate, self esteem, adult student positive peer interactions; anxiety, permissive parenting	Experimental design (RCT)	Reduction in children reporting being victims, in children bullying others and in student ratings of the numbers of children being bullied in their class	Reduction in general anti-social behaviour such as vandalism, theft, drunkenness and truancy.	Similar effects found for boys and girls.	Different results found in implementation of Olweus Bullying programme in other areas/countries
Sheffield Anti-Bullying Project Smith & Sharp, 1994 Eslea & Smith, 1998	Children in primary and secondary schools N=657 children age 7-11 from 23 schools	Aims to reduce bullying problems through use of whole-school approach	Whole School Approach: Anti-bullying policies, curriculum exercises, environmental improvements and individual work with bullies and victims	Non-experimental, pre-post design.	Decrease of 17% in children being bullied and 7% decrease in number bullying others. 12 month follow up:. 2 out of 4 schools reported decline in bullying, one	12 month follow up: all schools developed policy documents and used curriculum resources	12 month follow up all 4 schools reduced bullying among boys, 3 schools experienced rise in bullying among girls.	Important all staff were involved in policy document. Wide consultation and pupil involvement in planning was seen as important for successful results.

					school reported rise after initial fall			Inconsistencies in approach thought to impact success of programme in one school
Coping Power Program Lochman & Wells, 2003	At risk children in late elementary school and early middle school years N=678 at risk students and their parents	Violence prevention programme aims to address behaviour problems in aggressive youth.	Child sessions: coping skills, peer relations, anger managements, academic, problem solving skills Parent sessions: Discipline strategies, family communication & management skills	Experimental design (RCT)	Reduction in children's risk for delinquency and physical aggressive behaviour towards peers.	Older children engaged in lower rates of tobacco, alcohol and marijuana use than control.	Intervention was equally positive for boys and girls, and for children who came from neighbourhoods with high crime or from non-problematic neighbourhoods.	Teacher training (10 hrs). Parent Component: 16 sessions Classroom intervention: 34 sessions over 16 months
Good Behavior Game	Children in 1st and 2nd grade	Universal programme aims to decrease aggressive/	Positive reinforcement, positive student behaviour,	Experimental design (RCT)	5 year follow up, GBG group less likely to have conduct disorder,	7 year follow up, GBC group less likely to have started smoking,	Children in study predominantly African American and	Teacher training: 60 hours

		disruptive student behaviour	tangible and abstract rewards		to have been suspended, to have received mental health services than control group	taken drugs, tried alcohol than control group	economically disadvantaged	
(Ialongo et al. 2001, Furr-Holden, 2004.	N-678 students in 9 elementary schools							Game is played for ten minutes three times a week, eventually incorporated into whole day and entire week
LIFT (Linking the Interests of Families and Teachers) Eddy et al 2000	Children in elementary school N=600 youth and their families from high juvenile crime neighbourh-oods	Whole school approach aims to modify child and parent behaviours thought to be most relevant to the development of adolescent delinquent and violent behaviours.	Classroom: social & problem solving skills, rewards model. Playground: demonstration of positive problem solving skills Parent Training Positive play & negotiation skills.	Experimental design (RCT)	Reduced aggression in playground, children perceived as more positive by teachers. Parents behaved less aversively with children	Fifth graders – significantly delayed in exhibition of problem behaviours, significantly less likely to affiliate with misbehaving peers, less likely to be arrested during middle school	Effect of LIFT was strongest for children who had highest level of behaviour problems prior to intervention.	Class session 10/1hr sessions Parent training once a week for 6 weeks.
PeaceBuilders Flannery et al.,	Children in elementary school (Grades K-5)	Whole School Approach attempts to alter the climate of a school by teaching	School climate, individual behaviour, Rewards prosocial behaviour.	Experimental design (RCT)	Significant gains in social competence & child self-reported peace-building	Most effects were maintained in Year 2 including increases in child prosocial	Larger treatment effects for students in Grades 3-5 who were higher on aggression at	Extensive teacher training – 2hrs per week in first 3 to 4 months of the

2003, (US)	N=4128 from 8 elementary schools in an area with high juvenile arrests	students and staff rules and activities aimed at improving social competence and reducing aggressive behaviour.	Reduces negative behaviours and conflict situations.		behaviour in Grades K-2. Reduction in aggressive behaviour in Grades 3-5	behaviour. Decreased level of violence in schools. Increases prosocial interactions in schools	baseline.	intervention.
Resolving Conflict Creatively Aber et al., (1998)	Children in elementary school N=5053 from 11 elementary schools	Whole School approach aims to reduce violence, promote caring and cooperative behavior, teach students life skills in conflict resolution and intercultural understanding.	Conflict resolution strategies, fostering cooperation, social, emotional, communication skills & peer mediation	Quasi-experimental design	*High Lesson* group significantly slower growth in aggression and conduct problems & higher competent interpersonal negotiation strategies than children in *Low Lesson* or *No lesson* Group.		Programme effective for boys and girls equally. No evidence that effects of High Lessons was weaker depending on children's risk status	25 hour teacher training. Training and supervision of children as peer mediators for the classroom and the yard. Additional training for parents and principal (optional). Number of lessons taught by teacher had significant

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								impact on children's level of aggression

Pre-School Interventions

Programme & Country	Target Group	Aims & Objectives	Risk and Protective Factors	Type of Research	Health Impact	Social and Economic Impact	Impact on inequality	Implementation Issues
Healthy Start Programme Farrell & Travers, 2005	Childcare workforce N=25 childcare workers	Mental health literacy programme for childcare workers aims to build the capacity of the child care workforce to promote the mental health of children attending childcare.	Mental health information training (2 sessions) & Communication skills training (6 sessions)	Non-experimental pre-post design	Increased confidence & ability to recognise risk and protective factors for mental health problems Enhanced mental health literacy. and knowledge of local services for families with children.	Gains in skills and confidence not retained at 12-month follow-up		Necessary to provide follow-up programme training to support childcare workers.
Pre-K RECAP	Pre-kindergarten	Universal	Class curriculum:	Experimental	Improvement in social skills,			Teacher and parent training

Han et al., 2005	children age 4-5 N=149 children from low-income backgrounds	programme aims to increase children's social skills and reduce their internalizing and externalising problems	cognitive, behaviour, social problem solving skills Parent, teacher component: positive reinforcement, strengthening adult-child relationship	desing (RCT)	internalizing and externalizing problems. No treatment effects were found for parents' reports.			provided. Few parents attended parent group meetings.
Al's Pals Lynch et al., 2004 (US)	Children age 3-8 (N=399)	Universal intervention aims to promote social and emotional competence Decrease risk factor of antisocial or aggressive behaviour	Social competence, problem solving, autonomy, sense of purpose Communication and problem solving skills	Random controlled trial	Increase in prosocial skills & social independence. No change on problem behaviour scale. Control group made negative changes on problem behaviour scale.	Results highlighted suppressor effect on aggressive, antisocial and other problem behaviours in early childhood.	No significant interaction effects were detected for either gender or ethnicity.	Two day training workshop for teachers
Pilot Pre-school programmes in Scotland Woolfson & King, 2008	Children age 2-2.5 N=184 children classified as vulnerable and 160 parents	To provide positive preschool experiences for vulnerable children and support for their parents by setting up and delivering pre-school programmes for two year olds	Encourage positive preschool experiences, promote attendance, provide support for parents,	Quasi-experimental design	Mothers and staff noted significant improvement in children's cognitive, language, and social-emotional outcomes. Similar results found in control	Improved language and social skills for children. Improved overall parenting capacity		Programmes differed across local authorities. Planning the curriculum was significant challenge Child:staff ratios and hours of employment

					group.			identified as barriers to providing parent support. Ongoing support and training recognised as helpful.
					Improved parenting skills understanding and better family outcomes for parents attending parenting sessions			
High/Scope Perry Preschool Program Weikart et al., 1986, Weikart & Schweinhart, 1991; Schweinhart et al., 2005; Nores et al , 2005	Children aged 3-4 deemed at-risk in Michigan during 1960's N=123	Aims to improve the intellectual, social and emotional learning and developments of young at risk children	Academic failure, early behaviour problems and economic deprivation Class cognitive-orientated curriculum Weekly home visits 1.5 hrs	Random controlled design Longitudinal study	Improved IQ and cognitive ability at primary school level, fewer placements in special education, better high school graduation rates, fewer arrests, fewer teenage pregnancies, lower diagnosis of mental disorders, fewer self-reports of delinquent offending at 15 and 19 and 40.	Age 40 follow up: higher monthly earning and less likely to receive government assistance. Age 40 analysis found a 3% discount, for every public dollar spent on the programme repays $12.90 in tax dollars.	Strong proportion of gains from programme come from lowered criminal activity rates – almost all of which are from male sample.	Teacher training programme and home visits by teacher

The Abecedarian Program Ramey et al., 2000	Children aged six weeks through to five born between 1972 and 1977 N= 111 children and parents	Aims to improve school readiness and later school performance of children from very low income, multi-risk families	Low family income, family education, single parenthood, use of public assistance Programme: social, emotional and cognitive development.	Random controlled design Longitudinal study	Improved IQ scores during preschool, achievement scores in elementary school. Reduced rates of retention and special education. Difference in reading and maths persist through to 21 years of age	More positive interactions with mothers and children	Most vulnerable children benefitted the most. Teen mothers of children completing programme had increased likelihood of completing high school.	Teacher development programme and home school resource teachers trained to work with parents.
Head Start US Dept of Health and Human Services, 2005 US	Children age 3-4 years N=4,667 disadvantaged children	Promotes school readiness by enhancing social and cognitive development of pre-school children	Social-emotional cognitive and physical development, communication & problem solving skills, prosocial behaviour. Parental involvement.	Randomised Controlled Design	Improved pre-reading & writing and literacy skills for 3 & 4 yr olds, improved vocabulary for 3 year olds. Improved problem behaviours in 3 yr olds. Improved parenting skills among parents of 3 & 4 year olds	3 year olds: better health status & higher access to health care	More positive impacts were found for children in 3 year old group & whose primary language was English. More positive impacts for African American and Hispanic children.	

Selected/Indicated Interventions

Programme & Country	Target Group	Aims & Objectives	Risk and Protective Factors	Type of Research	Health Impact	Social and Economic Impact	Impact on inequality	Implementation Issues
Penn Prevention Programme Roberts et al., 2004	Children in late elementary and middle school with elevated levels of depressive symptoms N=303 children from 7th grade	Aims to prevent anxiety and depression symptoms in middle-school-aged children	Cognitive distortions, behaviour problems, poor peer relations, poor self – esteem, and poor academic achievements.	Quasi experimental design Post follow-up (30 month)	30 months post-intervention: lower levels of anxiety symptoms, no significant change in depressive symptoms and . lower level of social skills	Parents reported an impact upon students overall competence at 30 month follow up	More preventive effects for students with low initial levels of anxiety and depressive symptoms (at 30 months), rather than sustained relief for symptoms for children with high initial levels of anxiety/depression	Attrition rates high at 30 month follow up
Cool Kids Mifsud & Rapee, 2005	Children age 7-16 N=91 (8-11 year) at-risk children	Aims to reduce anxiety symptoms in at-risk children from low socioeconomic status neighbourhoods	Cognitive, behavioural skills development, social & emotional skills and problem solving	Randomised Controlled Design	Significant reduction in anxiety symptoms, results maintained at 4 month follow up			Eight x 90 min sessions. 2 parent evening sessions - parent involvement was low

Early Risers August et al., 2003	Elementary school children age 6-10 N=1,489 moderately to highly aggressive 4th grade children	Multifaceted 4yr intervention that targets aggressive elementary children at heightened risk for the development of antisocial behaviour	Social skill training, friendship building, educational enrichment activities, parent training & family support	RCT	Intervention children had significant more positive social skills, leadership skills and chose less aggressive friends. Improved self-regulation	Significant improvement in academic achievement Parents who completed training reported less personal stress	Severely aggressive children less aggressive towards others post-intervention.	Programme integrated nonaggressive with aggressive children at 6-week summer school – developed buddy system.
Incredible Years Webster-Stratton et al., 2004	Children age 4-8 N=159 fs, children with ODD and their families	Aims to promote social competence and prevent, reduce, and treat aggression and related conduct problems in young children	Classroom training – social skills, conflict resolution Parent training – parenting & interpersonal skills Teacher training – classroom management strategies, proactive teaching	RCT, families assigned to parent training (PT), teacher training (TT), child training (CT), PT+TT, CT+TT, PT+CT+TT or control group	Fewer conduct problems with mothers, teachers & peers across all treatment groups. Lower negative bahaviour with fathers in the PT conditions. Increased prosocial skills in CT conditions. Mothers & teachers less negative	Improved behaviour management and reduced conduct problems		PT -2 hr group sessions for 24 weeks CT – 2hr small group sessions for 19 weeks TT – 4 days (32hr) group training
CARE/CAST suicide prevention programmes N=460 youth identified at	High school students N=460 youth identified at	Aims to prevent escalating suicide risk among youths at high risk for suicidal	Problem solving, coping, social network connections	RCT Assigned to CARE: 1-to-1 crisis	CAST & CARE groups showed reductions in suicide risk behaviours, maintained at 9	Overall reduction in suicide risk	Females in both groups showed steepest rates of decline in anxiety and anger-control	CARE – counselling session & social network connections

Thompson et al., 2001	risk of suicide	behaviours.		intervention CAST: small group skills building or control group	mth follow up. CAST group greater rates of change in problem solving, coping and personal control.		problems. intervention CASR 12 one hour small group skills training sessions.

3. Promote Meaning and Purpose - Workplace Interventions: Characteristics of Individual Studies

Supporting people with common mental health problems to retain and obtain re- employment

Study Name	Target Group	Aim	Risk and Protective Factors	Type of Research Covered	Health Impact	Social and Economic Benefits	Implementation Issues
APRAND Programme (Godard et al., 2006)	9743 employees on sick leave and consulting physicians in 21 medical centres of a large company.	1. To screen and identify employees with anxiety and depressive disorders 2. To determine whether an organised health	*1. Information* Explaining the disorder, delivering test results and information leaflets	Cluster Intervention Study	Disorders detected among 10.6% of the subjects, 29.4% of whom had no previous diagnosis Positive effect on the 6-week and 6-month HAD (Hospital Anxiety	N/A	Results show that combining detection with provision of information was feasible and effective Positive effects both short term (6 weeks) and long term (1 year) Weakness: lack of

France		promotion intervention during consultation improves outcomes	*2. Advise* Advising patients to consult their personal physician, psychiatrist or occupational physician		and Depression) scores Total absence of disorders at 1 year was associated with intervention (OR 1.53)		randomisation - the centres volunteered to take part in the study
Comparison of two CBT Interventions for work related psychological complaints (Blonk et al., 2006) Netherlands	Self employed people on sick leave due to work related psychological complaints – those suffering from serious psychiatric disorder excluded (n = 89)	To investigate the effectiveness of 2 interventions (1) CBT conducted by psychotherapists (2) a brief combined CBT intervention conducted by labour experts	(1) CBT (2) a combined CBT intervention with a focus on individual and workplace intervention, including graded return	RCT	A decrease in psychological complaints across all groups, but no differences between groups	*Main finding :* *T*hose in combined intervention significantly more likely to engage in a partial or earlier return to work than the CBT group and control group	Lack of information on programme fidelity Small sample size – high attrition rates Big differences in content of both interventions – would be useful to know which aspects of the combined intervention led to it being more effective
Reducing long term sickness absence in employees with adjustment disorder (Van der Klink,	Employees on sick leave because of an adjustment disorder n=192	To compare an 'activating intervention' with 'care as usual for employees'	*'Intervention'* Main aim was to activate patients to develop and implement problem solving strategies for daily, working	Cluster randomised control trial	In terms of symptom intensity (distress, depression, anxiety, physical symptoms) there was no significant treatment effect Both treatment and	At 3 months significantly more patients had returned to work in the intervention group At 12 months all patients had returned	'Care as usual' also proved to be an effective 'treatment' – therefore lack of contrast between the control and the intervention groups Separate trials to evaluate

Blonk & Van Dijk, 2003) Netherlands			life problems. Based around graded activity and cognitive behavioural treatment 'Care as usual' Generally included emphatic counselling, instruction about stress, lifestyle advice and discussion of work problems		control groups substantially improved on all symptom intensity measures at both 3 and 12 months	to work, but sickness duration was lower in intervention group Incidence of recurrence at 12 months lower in the intervention group	the effectiveness of different parts of the intervention i.e. graded activity and CBT, would be useful Random allocation not possible due to company restraints – level of occupational physicians used instead
Telephone based care management for depressed workers - impact on clinical and work productivity outcomes	Employees enrolled in a behavioural health plan identified as having significant depression N= 604	To assess the clinical and work productivity effects of screening & telephone based outreach and care management delivered by mental health professionals for depressed	A telephone intervention programme which facilitated entry into in-person treatment (both psychotherapy and anti-depressant medication), monitored and supported treatment adherence. For	Randomised Control Trial	Intervention group performed significantly better on self report depression scores (QIDS-SR) at 6 months and 12 months	Intervention group had significantly higher rates of job retention and worked significantly more hours	Enhanced depression care of workers has benefits not only on clinical outcomes but also on workplace outcomes Generalisabilty -trial participants has less severe depression and different socioeconomic profile than a nationally

(Wang et al, 2007)		workers	those declining in-person treatment a structured psychotherapy intervention by phone was available				representative sample of depressed worker
USA	Employees with lifetime bipolar disorder, substance disorder, recent mental health care or suicidality were excluded						Further study needed to determine the cost-benefit ratio for the study

4-6. Community-based Interventions: Characteristics of Individual Studies

Promoting Integrated Physical and Mental Health & Well-being

Study Name	Target Group	Aim	Risk and Protective Factors	Type of Research Covered	Health Impact	Social and Economic Benefits	Implementation Issues
A Community Based Depression Prevention Intervention with Low-Income Single Low Mothers (Peden, Rayens & Hall, 2005) USA	Low income single mothers at risk of clinical depression n=136	To test the effectiveness of CBT intervention designed to reduce negative thoughts and decrease depressive symptoms in low-income single mothers	Thought stopping techniques and affirmations/ positive self talk to manage negative thoughts and decrease depressive symptoms. Six 1 hour or four 90-minute group sessions	RCT	Greater reduction in depressive symptoms, negative thinking and the perception of chronic stressors. Effects continued over a 12 month period	The authors claim that the intervention is cost effective although no data is supplied	High attrition rate (37%) at 12 month conclusion Inclusion of blind control group in future Better records of completed assignments would allow comparisons between outcomes and degree of participation

Interventions for older people (self-help, bereavement support, befriending, volunteering programmes, physical activity and exercise)

Programme	Target Group	Aims	Risk & Protective Factors	Type of Research	Health Impact	Social & Economic Impact	Implementation issues
Oyama, Koida, Sakashita, , Kudo. (2004) Japan.	Residents of a rural agricultural region in multiple municipalities compared to a neighbouring region N = 7,070 Age = 65 + Approx 30-60% eligible older adults participated.			Quasi-experimental Included screening for depression, follow-up with mental health care / psychiatric treatment, & health education on depression. Comparison group no services. 10 year study period. 5-year intensive; 5-year maintenance period, compared to 5-year preparation period and 5-year baseline period	Reduction in suicide rate of 73% in older men, 76% older women in intervention area. No change in comparison region. Note: Effective in **both** genders, in contrast to other similar programs		Not utilized by all elderly in region Non-randomized, time series analysis could allow for a regression to the mean
PROSPECT	Urban primary care patients with major or minor	To prevent suicide by supplying depression treatment	Medical comorbidity, adverse events, functional	RCT Quality of research rating: 3.7 (0 – 4)	Depression scores improved more and suicidal ideation	31% Int & 31% UC had dropped out after 12 months	Free treatment may limit

Bruce, Ten Hav, Reynolds et al. (2004) USA	depression. Multisite. Intervention (Int) N= 320. Usual care (UC) N = 278. Age: 55+. Female 72%. Male 28%. White 68%. Race/ethnicity unspecified 32%	guidelines (medication with/or psychotherapy) for older adults, coupled with depression care management. (Patients treated and monitored for 24 months).	disability, cognitive functioning, barriers to accessing health care, social stigma. PF through PROSPECT incl effective clinical care for mental, physical and substance use disorders, easy access to clinical interventions, support for help-seeking	Study strengths: Rigorous design, well-established reliability and validity for outcome measures, appropriate strategies for attrition and missing data, analyses well powered, analytic approach exceptional.	resolved more quickly in Int group than UC.		generalisability May be limited fidelity.
TeleHelp-TeleCheck Service DeLeo et al (2002)	At - risk older people referred to service. 18,641	Supports & needs assessment tel calls x2/week, plus 24hr Emergency response service	RF:Disability, social isolation, psychiatric problems, poor compliance, or waiting for institutional admission.	Quasi-experimental Compared service users with comparable general population	Significantly fewer suicide deaths in female older service users than expected. No difference in men.	TeleCheck part of prog assoc with reduced home-visits by GPs, hosp admissions,& depression scores	Non-randomized. Females benefited Future research

Italy	from 1988-1998		PF: Social support	11 year follow-up			on its impact on men.
Hay et al. 2002	Age 60 and over. N = 163, culturally diverse volunteers, in gov. subsidized apartments	To evaluate the cost-effectiveness of a 9-month preventive occupational therapy programme in the Well-Elderly Study	RCT + 2-hour group session of preventive advice per week	Significant health, function & QoL benefits. QoL index 4.5%QALY differential (OT vs combined control), p< .001 Trend towards dec med costs	Incremental cost per QALY of $10,700	95% CI = $6,700 to 25,400	Cost-effective in USA with incremental cost per QALY of $10,700

The Experience Corps Fried, Carlson, Freedman et al., 2004	Community older people 60-86 yrs & School Children	To improve the health of an aging population & simultaneously improve educational outcomes for children by placing older volunteers in public elementary schools	Declining engagement in physical, social & cognitive activities with ageing. Social engagement, supports, networks & capital	Pilot(experimental) Randomized Trial	Significant incr in people to turn to for help, increased social network, participant satisfaction. Physical activity, strength, cognitive activity incr significantly. Walking speed decreased significantly less	Schools: Better test scores, better behaviour, customer satisfaction. Positive cost benefits	Volunteers diverse backgrounds 95% African American Generative reasons, to "give back", not for health -related reasons
Markle-Reid et al. 2006	Frail home-based older people with chronic health needs 75 yrs or more N = 242 120 intervention, 122control	Evaluate comparative effects & costs of pro- active nursing health promotion intervention plus usual care (UC) to UC alone		RCT ++ 2-armed, single-blind	Better mental health (p=0.009), reduction depression(p =0.009), inc perceptions social support (p = 0.009), significantly improved SF36 scores compared with control UC	No extra societal cost Significant reduction costs of prescription drugs	QoL increased No extra health Care costs.

Fisher & Li (2004) USA	582 people >65 yrs, community residents. Neighbour hoods n = 56, 28 walking group, 28 info only control group	To evaluate effects of a neighbourhood walking programme on QoL of older adults		Randomized trial multilevel design with neighbourhoods as primary sampling units, residents as secondary units.	Significant improvement in mental, physical & QoL. Signif inc walking activity	Multi-level longitudinal analysis SF-12 summary scores phys & mental P < .05 SWLS p < . 05 Walkn p < . 05	Trained leaders x 3 per week x 6 months. Neighbourhood walking programme low/moderate intensity feasible & beneficial for QoL elderly in community Could transfer to UK.
Hopman-Rock & Weshoff 2002 Netherlands	Inactive old people RCT n = 71. CIT n = 390 Dissemination & Implementation N = 388	Health education + Exercise		3 parts: RCT Community Intervention Trial Dissemination & Implementation	CIT significant decreased in loneliness 3.9 -4.2, Friedman $p = 0.00$ Phys activity increased from 2.6 to 4.6 (F=16.9,mp =.00 & significant > controls. 60% still exercising 4-6 months later		Flexible exercise (gymnast, swim, dancing) is key to success.

| Munro et al., 2004 | >65 yrs in community.

N = 26% of 2283 eligible intervention participants (n = 4137 controls). | To assess the cost-effectiveness of a community-based exercise programme as a population wide public health intervention for older adults. | RCT. A pragmatic, cluster randomised community intervention trial. | Intervention people had a lower decline in health status | Probably cost-effective despite low levels of adherence. Mean net QALY gain of 0.011 per person in intervention group yielded an incremental cost per QALY of £12,100 | 95% CI = £5,800 to £61,400 | X 2/week exercise classes

with qualified instructors

probably

cost-effective in

UK with an

incremental cost

per QALY of

£12,100 . |