Western Cape Burden of Disease Reduction Project

Volume 4 of 7

Decreasing the Burden of Mental Illness

Final Report 2007

J Corrigall
C Ward
K Stinson
P Struthers
J Frantz
C Lund
AJ Flisher
J Joska

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Executive Summary

Introduction

Following an initiative from the Head of the Western Cape Provincial Department of Health, a Project Task Team was appointed to delineate the extent of, and identify the main contributors to, the burden of disease (BoD) in the province. Five disease groups were identified as the largest contributors to the total burden of disease in the Western Cape, as shown in Table 1 below. Five corresponding workgroups were constituted to develop policies for the prevention of these diseases to significantly decrease the burden of disease in the Province.

**Table 1: The five major contributors to
the Burden of Disease in the Western Cape Province**

Disease group
1. Major infectious diseases
2. Mental disorders
3. Cardio-vascular diseases
4. Childhood diseases
5. Injury

With this background in mind, the Mental Health Workgroup was established as a consortium of multi-sectoral and intergovernmental public health and mental health experts. The workgroup was asked to make recommendations with regard to those interventions which might reduce the burden of mental illness in the province. A further consideration was for the group to focus on preventing *common* mental disorders such as: depression, substance abuse, childhood behavioural disorders, and Post-Traumatic Stress Disorder. By implication, the aim was to suggest interventions which might promote and sustain good mental health.

Investing in Mental Health: Nice … but *necessary*?

As illustrated in this volume, mental illness has a major impact on individual and population health, educational outcomes, teenage pregnancy, social capital, community violence, poverty, and the economy of a country.
From an economic perspective, the impact of mental illness is vast. The annual costs of mental disorders have been calculated at $147 billion in the United States and at 3-4% of the Gross National Product in the European Union (WHO, 2005).

Unfortunately, data of this kind is not available in South Africa, but — for alcohol abuse alone — the annual economic costs are estimated at between 0,5 and 1,9 percent of the country's Gross Domestic Product: about R8,7-

billion a year. When the further costs of drug abuse are added, the figure rises to at least R10-billion a year (Benjamin, 2006).

Across the globe, moreover, the majority of financial costs which have arisen from mental health problems have been caused more by absenteeism and decreased productivity, rather than by the costs of mental health treatment and the provision of care.

In terms of its impact on population health, moreover, the onset of mental illness can result in significantly greater disabilities than most physical illnesses and, as such, accounts for a large proportion of the Burden of Disease. At a global level, five of the ten leading causes of disability are psychiatric conditions (WHO, 2004).

In South Africa, neuro-psychiatric disorders account for the second highest proportion of the local burden of disease, after HIV/AIDS (Bradshaw, 2003). In the Western Cape Province alone, more than 22% of all disability is due to "emotional" and "intellectual" disability (Statistics South Africa, 2001).

The impact of mental health will be grossly underestimated, however, if one excludes the impact it has on physical illness, since the risk-taking behaviour associated with mental disorders includes substance abuse, smoking, and unsafe sex. Mental illness, therefore, results in markedly higher risks for injuries, cardio-vascular disorders, and HIV (Herman & Jané-Lopis, 2005) — all of which are major contributors to the Burden of Disease in the Western Cape Province. Considered in this light, mental health is itself an upstream determinant of multiple health outcomes.

Mental health is also a determinant of multiple socio-economic outcomes. The mentally ill are more likely to be unemployed; to live in inadequate housing and in poor neighbourhoods; and are less likely to complete schooling. Furthermore, mental illness — and in particular substance abuse — is associated with less social capital and greater community violence.

In South Africa, 58% of homicide deaths and 57% of road-traffic accident deaths are associated with alcohol abuse (MRC, 2005). Socio-economic factors are also significant determinants of mental health: unemployment, poverty, low social capital and community violence are all associated with increased mental illness.

Multi-component mental-health interventions can therefore improve a broad range of outcomes, including:

> ➢ an improvement in mental and physical health;

> ➢ the reduction of poverty;

> ➢ an increase in social capital; and

> ➢ a reduction in violence.

> **Interventions that improve mental health "not only enhance positive mental health, but also contribute to the reduction of risk behaviours such as tobacco, alcohol and drug misuse and unsafe sex; the reduction of social and economic problems such as dropout from school, crime, absenteeism from work and intimate partner violence; and the reduction of rates, severity of, and mortality from physical and mental illness."**
>
> Moodie & Jenkins (2005) *International Journal of Health Promotion and Education. Supplement: The evidence of mental health promotion effectiveness: strategies for action.* 2: 42-46

The Prevalence of Mental Disorders in the Western Cape

The South African Stress and Health Survey (SASH) is a household survey which has recently been completed and which seeks to estimate the national prevalence of mental illness. The results show that nearly one in three South Africans will have an episode of mental illness in their life-time (Stein et al, in press). Nevertheless, annual prevalence and disorder prevalence figures are still pending.

Apart from the SASH data, no other source of reliable data on the prevalence of mental disorders in the Western Cape Province is available, nor any for South Africa as a whole (Corrigall, 2006). Yet expert consensus suggests that Depression, Generalised Anxiety Disorder, Substance Disorders, Post-Traumatic Stress Disorders and Childhood Behavioural Disorders are the most common psychiatric disorders in the Western Cape Province (Kleintjies et al, 2006).

The mortality data on injuries provides a proxy measure for the extent of mental health problems, including substance abuse, in the Western Cape Province. As only a small fraction of the mentally ill commit suicide, and given the high rates of substance abuse associated with homicide and road-traffic accidents, the latter will provide the most accurate proxy measure for the burden of mental illness.

As a marker of the comparative prevalence of mental disorders across the Provinces of South Africa, it is noteworthy that the Western Cape Province has the highest proportions of premature deaths due to homicide, road traffic accidents and suicides, as illustrated in Table 2 below on page 6. (Bradshaw et al, 2004).

Global projections into the future suggest that the situation will worsen, with depression predicted to be the second leading cause of disability worldwide in 2020 (WHO, 2004).

> ➤ **30% of adults in the Western Cape Province will develop a mental disorder in their life-time.**
> ➤ **Homicide, road-traffic accidents, and suicide rates can give an indication of the extent of mental illness in the Province: suicides alone are a poor proxy measure.**

Table 2: Percentage contribution of homicide, road traffic injuries and suicide to total DALYs per province, and for South Africa				
	Western Cape	Gauteng	KwaZulu-Natal	South Africa
Homicide	12.9%	8.3%	4.7%	6.8%
Road Traffic	6.9%	4.4%	2.8%	3.7%
Suicide	2.3%	1.5%	0%	0%
Total % of ALL DALYs	**22.1%**	14.2%	7.5%	**10.5%**

Note: Homicide, road traffic and suicide deaths may be considered
proxy measures of mental disorders. (Figures from Bradshaw et al, 2004.)

Upstream Determinants of Mental Health in the Western Cape

The Mental Health Workgroup was asked to identify and address the upstream determinants of mental illness. The term "upstream" refers to those socio-structural factors that are considered to be the "root causes" of mental illness, while down-stream causes typically are the "final" or direct causes in a causal pathway. So, for example, poverty (upstream) may lead to food insecurity (upstream), which leads to poor nutrition (downstream), which can result in B12 deficiency (downstream), which can cause mental illness. A simplified version of this is shown in Figure 1 below.

Figure 1: A Conceptual Model of Risk Factors for Disease

A review of the literature, and consultation with experts in the field, identified six "risk" areas where it was felt interventions would be most useful:

1. **Multiple Deprivation** (poverty, unemployment, food insecurity, and housing shortages);

2. **Substance Abuse** (alcohol and drug abuse);

3. **Mental Health Systems** (prevention and screening, access to treatment);

4. **Trauma** (prevention of mental illness after exposure to violence);

5. **Pre-school** (access to affordable, high-quality pre-school facilities); and

6. **Recreation** (access to a range of sports and other recreational facilities).

Furthermore, interventions in these areas should aim to increase social capital and employment: both significant determinants of mental health, while the literature review also identified **particular groups that are at increased risk** for mental illness as follows:

➢ The unemployed and underemployed

➢ Women (Depression and Generalised Anxiety)

➢ Men (Substance use disorders)

➢ People living in poverty

➢ Single parents

➢ People with chronic illness (HIV and other)

➢ Refugees

Certain **"critical periods"**, where particular stages of the life-cycle are associated with higher risks for mental illness (and greater potential for preventive interventions), were identified. These include: early childhood, adolescence, early adulthood, and the peripartum period (the period surrounding child birth).

Recommended interventions

The proposed recommendations were derived from an analysis of risk factors and evidence for interventions; an identification of gaps in the current programmes; and an examination of the policy context in the Western Cape Province. It should be noted, however, that several departments of the Provincial Government of the Western Cape are already undertaking many interventions in the focus areas of this report. The recommendations that follow here are therefore intended to contribute to this work. Moreover, owing to the short time allocated to this project, consultation with all the relevant government departments has not been possible and the recommendations presented here are thus equally contingent on further discussion at the Development and Health Summit, scheduled for June 2007.

Only the *types* of interventions are presented in this brief summary; for details on *how* these interventions could be implemented, the reader is directed to the relevant section below. In the CD version of the Report, each topic is hyperlinked to the relevant section in the report itself. For the reader's convenience, key points are also highlighted within the text. Interventions which have been <u>underlined</u> indicate that these recommendations are based on strong evidence. Those references which have not been underlined have not been adequately researched, but are considered very promising.

I Multiple Deprivation

1. Improve access to quality housing by —

➢ improving the quality and type of state-subsidised housing;

➢ improving the capacity of housing applicants to make financial contributions to their homes;

➢ increasing the housing subsidy amount available per applicant;

➢ decreasing the demand for housing; and

➢ fostering community participation and support for housing delivery.

2. Expand neighbourhood renewal projects.

3. Ensure proper monitoring and evaluation of poverty-alleviation programmes.

4. Ensure that current employment programmes include evidence-based intervention methods (as described in this report).

5. Pilot community development micro-credit projects in the most deprived areas.

6. Improve access to social assistance grants.

7. Provide free, or subsidised, high-quality child-care facilities.

8. Expand and evaluate existing programmes addressing adult literacy and food insecurity.

II Substance Abuse (alcohol, "tik" and other substances)

1. Enforce existing laws on alcohol, "tik" (methamphetamine), and other drugs.

2. Restrict or ban the advertising of alcohol.

3. Conduct concurrent anti-alcohol and anti-drug media campaigns that challenge prevalent beliefs and "norms".

4. Substantially increase the cost of alcohol.

5. Reduce the availability of alcohol by strengthening the Liquor Act.

6. Provide adequate substance-dependence treatment services.

7. Increase references to substance abuse in other health-promotion messages.

8. Include substance-abuse prevention programmes in school curricula.

9. Train primary-care and other health workers in screening and brief interventions for substance abuse and dependence.

10. Incorporate the addressing of substance abuse in multi-faceted community development interventions.

III Mental Health Services

1. <u>Improve school-based mental health services</u>.

2. <u>Develop and implement workplace mental health programmes</u>.

3. <u>Develop and implement home-visiting interventions for new parents in high-risk areas</u>.

4. Invest in media campaigns to increase mental health literacy (knowledge about mental health and illness) and decrease stigma.

5. <u>Integrate mental health services into general medical services and make adequate provision for: human resources, training, facilities, protocols and information management</u>.

6. <u>Ensure mental health facilities are available at secondary and tertiary hospitals, which should include the appointment of all relevant specialists and sub-specialists</u>.

7. <u>Employ more dedicated mental-health professionals at general hospitals and in outpatient services</u>.

8. <u>Provide dedicated mental health professionals and resources to maternal, HIV and trauma services</u>.

9. <u>Build community mental health services (as described in this report)</u>.

10. <u>Utilise a continuous care model for the management of patients</u>.

11. Establish a Mental Health Information System.

IV Trauma

1. All health services must be trauma-informed and **competent**.

2. <u>Increase the number of trauma-competent mental-health staff in general medical services</u>.

3. Develop an adequate referral network across sectors.

4. <u>Train mental-health professionals in trauma-focused psychotherapy and pharmacotherapy</u>.

5. <u>Ensure sufficient mental-health services are provided</u>.

6. <u>Develop resources for the emergency placement of trauma survivors who may require such placement to ensure their safety</u>.

7. Develop critical-incident stress-management programmes in workplaces with high trauma exposures.

8. <u>Prevent retraumatisation: train occupational groups working with trauma victims (police, lawyers, and district surgeons) in methods of dealing with trauma victims</u>.

9. Develop post-graduate training programmes in trauma.

10. <u>Disaster plans should include a detailed psycho-social response plan</u>.

11. Evaluate and support Non-Governmental Organisations currently filling the gap in trauma services, such as: Child Welfare, Rape Crisis, FAMSA, and Lifeline.

V Pre-school education (Early Childhood Development, or ECD)

1. Develop quality ECD teacher-training programmes.

2. Develop quality ECD programmes according to the standards set by the Department of Social Development.

3. Urgently roll-out high-quality ECD programmes to areas with highest Multiple Deprivation Index

VI Recreation

1. Promote and support physical activity and sport.

2. Promote and support other leisure and recreational activities in arts, culture and leisure sports (for example: Ballroom and Latin dancing, volleyball, chess, indigenous games, and pool).

3. Design recreational projects to increase social capital.

4. Evaluate the mental-health outcomes of existing sports and recreation programmes.

5. Protect and promote green and natural spaces.

6. Provide affordable and safe transport to recreational facilities or areas.

7. Target sports and recreation programmes at high-risk groups.

Relationship of interventions to iKapa Elihlumayo

Until recently, health has been viewed predominantly as an expenditure item with few "returns", and health improvements have been regarded as a social good resulting from, rather than contributing to, economic growth (WHO, 2006). The WHO Commission on Macro-economics and Health was established in 2000 to interrogate these assumptions and has ably demonstrated that investment in health is a key engine for economic development and poverty alleviation. For example, it is estimated that a six-fold return would be expected from investments in a set of essential health interventions (WHO 2006). These findings are consistent with the work of development economists, who have found that "small improvements in life expectancy can have a large effect on income, education and democracy" (Fielding, 2002: 410).

The relationship of health to human development is probably more self-explanatory and is reflected in the inclusion of health indicators in both the United Nations' Human Development Index and its Millennium Development Goals. The review of evidence on the determinants of mental health shows that uneven development also impacts on mental health. Income inequality and multiple deprivation are universally associated not only with poorer physical health, but also with poor mental health.
Taking these findings into account, the recommended interventions presented in this report were also considered in the light of the Provincial Government's iKapa Elihlumayo programme. The Provincial Growth and Development

Strategy (PGDS) aims to develop the Western Cape so that it becomes a region where

> … all residents will enjoy a quality of life characterised by greater levels of equality, improved access to economic and social opportunities, assets and resources and healthy living environments that foster well-being.

> (Department of the Premier, 2006:21).

The PGDS further aims to achieve these goals through shared growth and integrated development. The four interdependent elements of the iKapa Elihlumayo development strategy are:

1. Growth;
2. Equity;
3. Empowerment; and
4. Enviornmental Integrity.

The direct impact of the recommended interventions; the resulting expected improvement in mental health with regard to these four aspects of development; and the eight strategies of the PGDS are all depicted in Tables 3 and 4 on page 14.

From the tables it is evident that the interventions themselves, as well as the expected improvements in mental health, would contribute to realising the imperatives of iKapa Elihlumayo. As such, interventions should be targeted to areas with the greatest need for development.

Integrating interventions in multiply deprived settings

While the recommended interventions may be adopted as stand-alone interventions, an effort should be made to integrate approaches in high-risk areas. Since the most vulnerable groups in the Western Cape Province are those who experience multiple dimensions of poverty or deprivation, multi-faceted interventions are likely to be the most effective. An example of how interventions could be integrated is presented in Figure 2 on page12. Other Burden of Disease interventions may easily be added to this model.

Monitoring and Evaluation

Monitoring and evaluation is a key part of any system change and there are several reasons to monitor social issues. Firstly, the practice of monitoring provides useful data with which to influence policy development, and helps to determine the outcomes, effectiveness and efficiency of social programmes. Without such data, decision-makers do not have the information they need for policy design or resource allocation (Dawes & Bray, 2007). Secondly, a good monitoring system allows decision-makers to determine whether a programme was actually implemented; whether it was implemented in the manner originally intended; and — if those requirements have been met — whether it has proved to be effective. Input, process, output, and outcome indicators thus need to be developed to evaluate the effectiveness of

interventions. More broadly, the surveillance of mental illness and its determinants is a vital component of decreasing and planning for the burden of mental illness.

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Table 3: The impact of recommended interventions and mental health outcomes on the four principles of Shared Growth and Integrated Development

Interventions	Growth	Equity	Empowerment	Environmental Integrity
Multiple Deprivation	✓	✓	✓	✓
Substances of Abuse	✓	✓		
Pre-school	✓	✓	✓	
Trauma	✓	✓	✓	
Recreation	✓	✓	✓	✓
Mental Health Services	✓	✓	✓	
Outcome				
Improved mental health	✓	✓	✓	

Table 4: The impact of recommended interventions on the eight strategies of iKapa Elihlumayo

Intervention Group	Strategy 1: Economic Participation	Strategy 2: Connectivity infrastructures	Strategy 3: Effective transport	Strategy 4: Liveable Communities	Strategy 5: Resilient communities	Strategy 6: Spatial Integration	Strategy 7: Tolerance, respect for diversity	Strategy 8: Effective governance institutions
Multiple Deprivation	✓	✓	✓	✓	✓	✓	✓	✓
Substances of Abuse	✓			✓	✓		✓	✓
Pre-school	✓			✓	✓		✓	✓
Trauma	✓			✓	✓		✓	✓
Recreation	✓	✓	✓	✓	✓	✓	✓	✓
Mental Health Services	✓				✓		✓	✓

Figure 2: An example of how interventions could be integrated in multiply deprived areas

Identify the most deprived areas in the Western Cape using the Multiple Deprivation Index

Within each area, conduct a brief situational analysis with respect to:
- Poverty
- Employment levels
- Substance abuse
- Availability of mental-health services (trauma, substances, schools, community-based services, general medical services)
- Access to pre-school facilities
- Access to recreational facilities

Prioritise the need for interventions in consultation with the community

Implement selected interventions from the 'tool box' of interventions (locally adapted as necessary)

Monitoring and evaluation

Background to the Burden of Disease Project

The burden of bisease is a measure of the impact of disease, in terms of disability caused and life lost, in a particular population. Results of the first Global Burden of Disease Study were released by the World Health Organisation in 1993 and since this time many countries make use of this methodology for health priority setting (Murray & Lopez 1996).

Following an initiative from the provincial head of the Department of Health, a Project Task Team was appointed to delineate the extent of the burden of disease (BoD) in the Western Cape Province in order to identify the main contributors to the BoD in the Province. Five disease groups were identified as the largest contributors to the total burden of disease in the Western Cape, as shown in Table 5 below. Five corresponding workgroups were constituted to develop policies aimed at preventing these diseases from occurring and in so doing significantly decreasing the burden of disease in the Province.

**Table 5: The main contributors to the Burden of Disease
in the Western Cape Province**

Disease group
1. Major Infectious diseases
2. Mental disorders
3. Cardiovascular disease
4. Childhood diseases
5. Injury

In order to develop effective preventive policy and programme recommend-dations, each of the five workgroups were tasked with identifying the main determinants (risk and protective factors) of their disease group. In recognition of the strong links between disease and socio-structural factors (such as poverty and the lack of sanitation, for example), the workgroups were asked to concentrate on developing interventions targeting the upstream[1] determinants of health. This approach is in line with contemporary health-promotion initiatives which aim to address the "causes of the causes".

The Mental Health Workgroup

The Mental Health Workgroup was established by the Burden of Disease Project in May 2006 and consists of a consortium of public-health and mental-health experts drawn from academic institutions, Provincial Government Departments and Non-Governmental Organisations. The group consists of a small number of authors and a larger group of peer and expert reviewers (see Acknowledgements above).

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[1] The term upstream refers to the structural and societal determinants of health that may act both indirectly or directly to cause disease and/or disability

The aim of the Mental Health Workgroup is to devise recommendations for interventions to reduce the burden of mental illness in the Western Cape Province of South Africa. The main focus is on preventing *common* mental disorders such as depression, substance abuse, childhood behavioural disorders and Post-Traumatic Stress Disorder. By implication, the aim is to provide interventions that promote and sustain mental health.
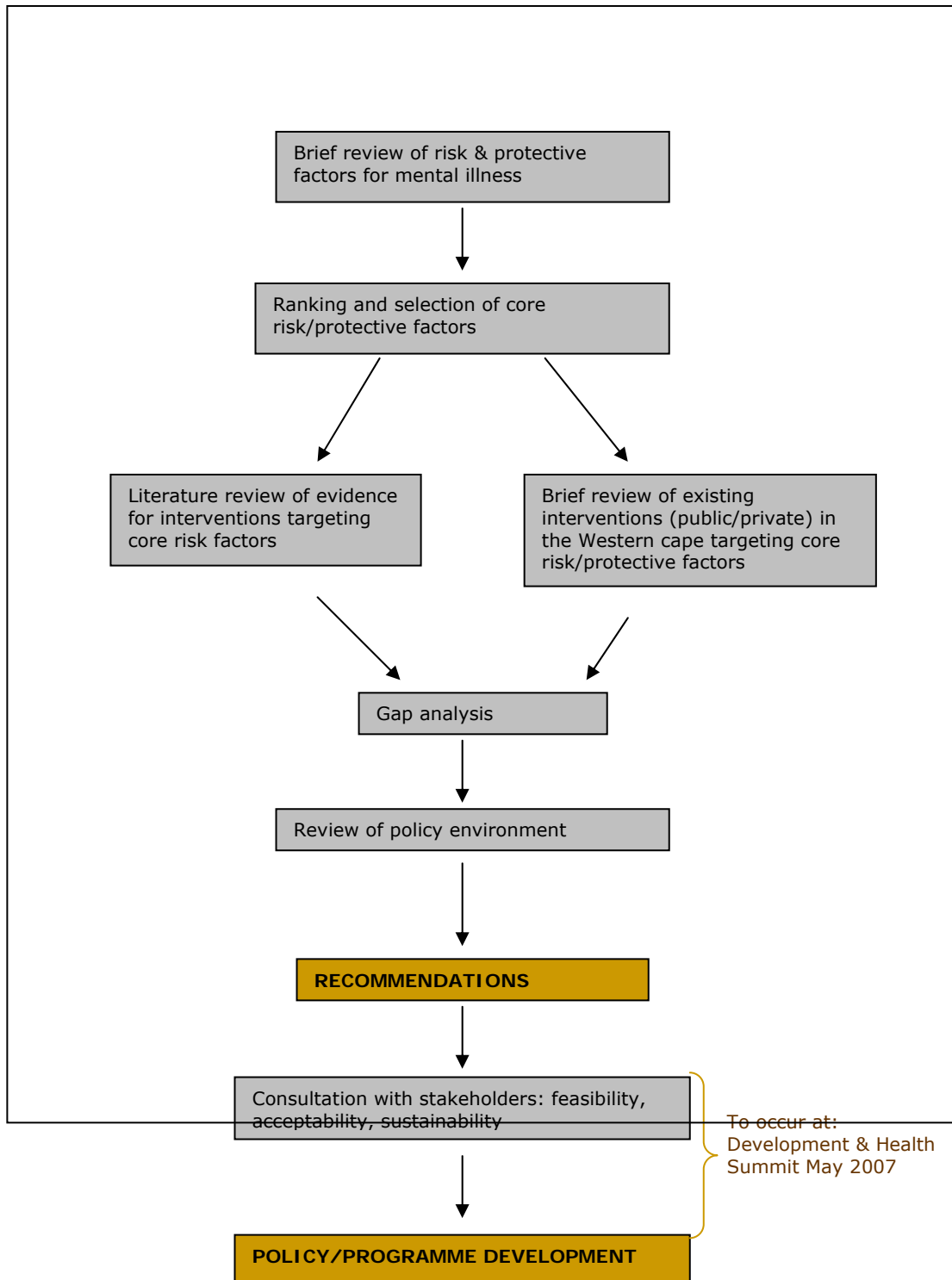
In order to identify the most appropriate interventions, evidence on risk and protective factors relevant to mental health in the Western Cape was sought and discussed. A subset of core risk/protective factors was then selected and evidence for quality and utility of interventions targeting these factors further sought. Once appropriate interventions had been identified, the gaps in such interventions were noted. The recommendations presented here are thus the culmination of the analysis of risk factors, evidence for interventions, gaps in current programmes, and the policy context in the Western Cape Province, as shown in Figure 3 below on page 17 below. The results of this process are presented in this report.

Economically speaking, the impact of mental illness is vast with annual costs of mental disorders amounting to $147 billion in the United States and 3-4% of the Gross National Product in the European Union (WHO, 2005). In South Africa, data of this kind is not available, but - for alcohol abuse alone - the annual economic costs are estimated at between 0,5 and 1,9 percent of the country's Gross Domestic Product. This translates to about R8,7-billion a year, and – when the costs of drug abuse are added – rises to at least R10-billion a year (Benjamin, 2006). It is noteworthy that across the globe, the majority of financial costs incurred are due to absenteeism and decreased productivity rather than costs of mental health care.

In terms of population health, mental illness results in significantly greater disability than most physical illness and as such accounts for a large proportion of the Burden of Disease. According to the World Health Organization, 25% of people will develop a mental or behavioural disorder in their life-time and – at any point in time - 10% of the adult population worldwide will have a mental disorder (WHO, 2004). Five of the ten leading causes of disability, moreover, are classifiable as psychiatric conditions (including depression and alcohol abuse) (WHO, 2004). Depression is further predicted to become the second leading cause of disability worldwide in 2020 (WHO, 2004).In the Western Cape Province, more than 22% of all disability has an emotional or cognitive origin (Statistics South Africa 2001).

The impact of mental health will be grossly underestimated, however, if one excludes the impact it has on physical illness, since mental disorders are associated with substance abuse, smoking, and unsafe sex, and as such mental illness results in a higher risk for injuries, cardiovascular disorders, and HIV (Herman & Jané-Lopis, 2005) - all of which are major contributors to the Burden of Disease in the Western Cape Province. Considered in this light, mental health is itself an 'upstream' determinant of multiple health outcomes.

Figure 3: Summary of operational process of the Mental Health Workgroup

Brief review of risk & protective factors for mental illness

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Ranking and selection of core risk/protective factors

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Literature review of evidence for interventions targeting core risk factors

Brief review of existing interventions (public/private) in the Western cape targeting core risk/protective factors

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Gap analysis

↓

Review of policy environment

↓

RECOMMENDATIONS

↓

Consultation with stakeholders: feasibility, acceptability, sustainability

↓

POLICY/PROGRAMME DEVELOPMENT

To occur at: Development & Health Summit May 2007

Why mental health is necessary: the burden of mental illness

As illustrated in this report, mental illness has a major impact on individual and population health, educational outcomes, teenage pregnancy, social capital, community violence, poverty, and the economy of a country.

The state of mental health is also a determinant of multiple socio-economic outcomes: the mentally ill are more likely to be unemployed, live in inadequate housing and in poor neighbourhoods, and are less likely to complete schooling. Furthermore, mental illness, and in particular substance abuse, is associated with less social capital and greater community violence; in South Africa 58% of homicide deaths and 57% of road-traffic accident deaths are associated with alcohol abuse (MRC, 2005). Socio-economic factors are also significant determinants of mental health, with unemployment, poverty, low social capital and community violence all associated with increased mental illness. Multi-component mental health interventions can therefore improve a broad range of outcomes, as suggested by this report.

> **Interventions that improve mental health "not only enhance positive mental health, but also contribute to the reduction of risk behaviours such as tobacco, alcohol and drug misuse and unsafe sex; the reduction of social and economic problems such as dropout from school, crime, absenteeism from work and intimate partner violence; and the reduction of rates, severity of, and mortality from physical and mental illness"**
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> Moodie & Jenkins (2005) The evidence of mental health promotion effectiveness: strategies for action. *International Journal of Health Promotion and Education. Supplement.* 2: 42-46

The South African Stress and Health Survey (SASH) has recently been completed and is a household survey estimating the national prevalence of mental illness. The results show a 30.3% lifetime prevalence of any psychiatric disorder (Stein, in press); annual prevalence and disorder prevalence rates are still pending. Aside from this data, there is currently no other source of reliable data on the prevalence of mental disorders in the Western Cape Province or South Africa (Draper & Corrigall 2006).

The mortality data on injuries provides a proxy measure for the extent of mental-health problems, including substance abuse, in the Western Cape Province. In considering which component of injury data is the most accurate marker of mental illness one must recognise that only a small fraction of those with mental health problems commit suicide. Homicide and road-traffic accident rates are better proxy measures of the impact of mental illness on mortality, given that the majority of homicides and road-traffic accidents are associated with substance abuse, which falls within the spectrum of mental illness. Certainly it will be an underestimate of the extent of the *morbidity* due to mental disorders, but it is far superior to suicide rates as a measure of the impact of mental health problems on Provincial *mortality*. As a marker of the comparative prevalence of mental disorders across the Provinces of South Africa, it is noteworthy that the Western Cape has the highest proportions of premature deaths due to homicide, road-traffic accidents and suicides in the country, as illustrated in Table 6 below (Bradshaw et al, 2004).

Table 6: Percentage contribution of homicide, road-traffic injuries, and suicide to total DALYs per province and for South Africa.

	Western Cape	Gauteng	KwaZulu Natal	South Africa
Homicide	12.9%	8.3%	4.7%	6.8%
Road Traffic	6.9%	4.4%	2.8%	3.7%
Suicide	2.3%	1.5%	0%	0%
Total % of ALL DALYs	**22.1%**	**14.2%**	**7.5%**	**10.5%**

Homicide, road traffic and suicide deaths may be considered proxy measures of mental disorders. (Figures from Bradshaw et al, 2004)

In terms of future trends, global projections indicate that the situation will worsen with depression predicted to be the second leading cause of disability worldwide in 2020 (WHO 2004).

> ➢ **30% of adults in the Western Cape will develop a mental disorder in their life-time.**
> ➢ **Homicide, road-traffic accidents and suicide rates can give an indication of the extent of mental illness in the Province: suicides alone are a poor proxy measure.**
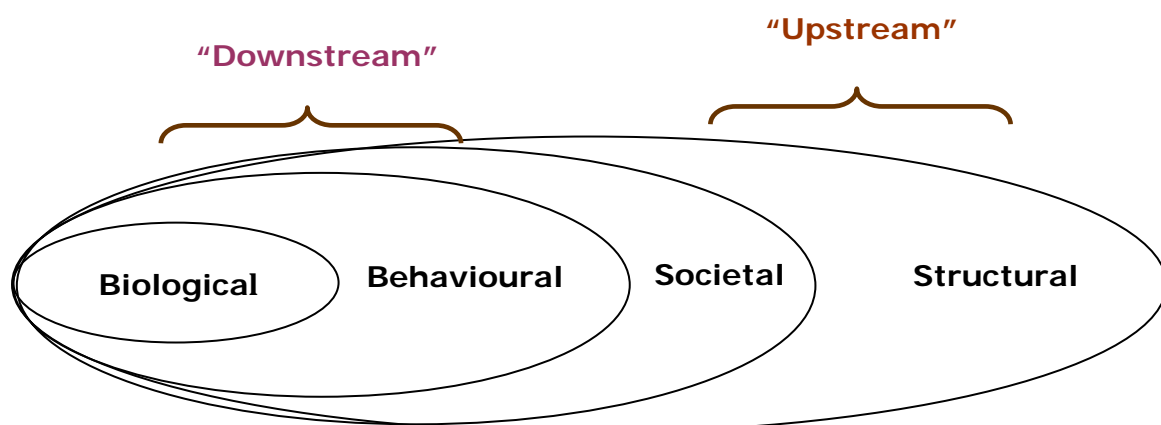
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The upstream determinants of mental health in the Western Cape Province

The Mental Health workgroup was asked to identify and address the "upstream" determinants of common mental disorders. The term "upstream" refers to those socio-structural factors that are considered to be the "root causes" of mental illness, while downstream causes typically are the "final" or direct cause in a causal pathway. So, for example, poverty (upstream) may lead to food insecurity (upstream), which leads to poor nutrition (downstream), which can result in B12 deficiency (downstream), which causes mental illness. A simplified version of this model is presented in Figure 4 below. This model also takes account of how downstream factors are nested within upstream factors. An example of this would be the influence that the lack of access to recreational facilities (a structural factor) may have on adolescent alcohol use (a behavioural factor), which in turn has mental health consequences.

Figure 4: A Model of Risk Factors for Disease

Methodology

The upstream determinants of mental health in the Western Cape Province were initially identified by the authors and then presented to the Expert Group and Peer Reviewers for comment. For each postulated upstream factor, searches of the literature were conducted to determine the strength of evidence for a causal relationship between this factor and common mental disorders. The strength of any piece of evidence was assessed using standard epidemiological principles (study design, potential for bias, and so on). Wherever possible, South African data has been presented. Where data from other settings is utilised, applicability to the South African setting has been considered.

Findings

While the findings of the review are reported in Appendix 1, Figure 5 below lists a set of factors according to the strength of evidence for a causal relationship with mental illness. In the CD version of this report, each item is hyperlinked to the relevant text in the review. It is important to note that many of the relationships between variables we examine are likely to show bi-directional causality, for example: mental illness can lead to unemployment and unemployment can cause mental illness. Reciprocal relationships were found almost across the board, which illustrates significantly the vicious cycle among risk factors and mental illness. Treating mental illness, therefore will have a cascading positive effect on a range of socio-economic factors. Similarly, addressing socio-structural risk factors will improve mental health.
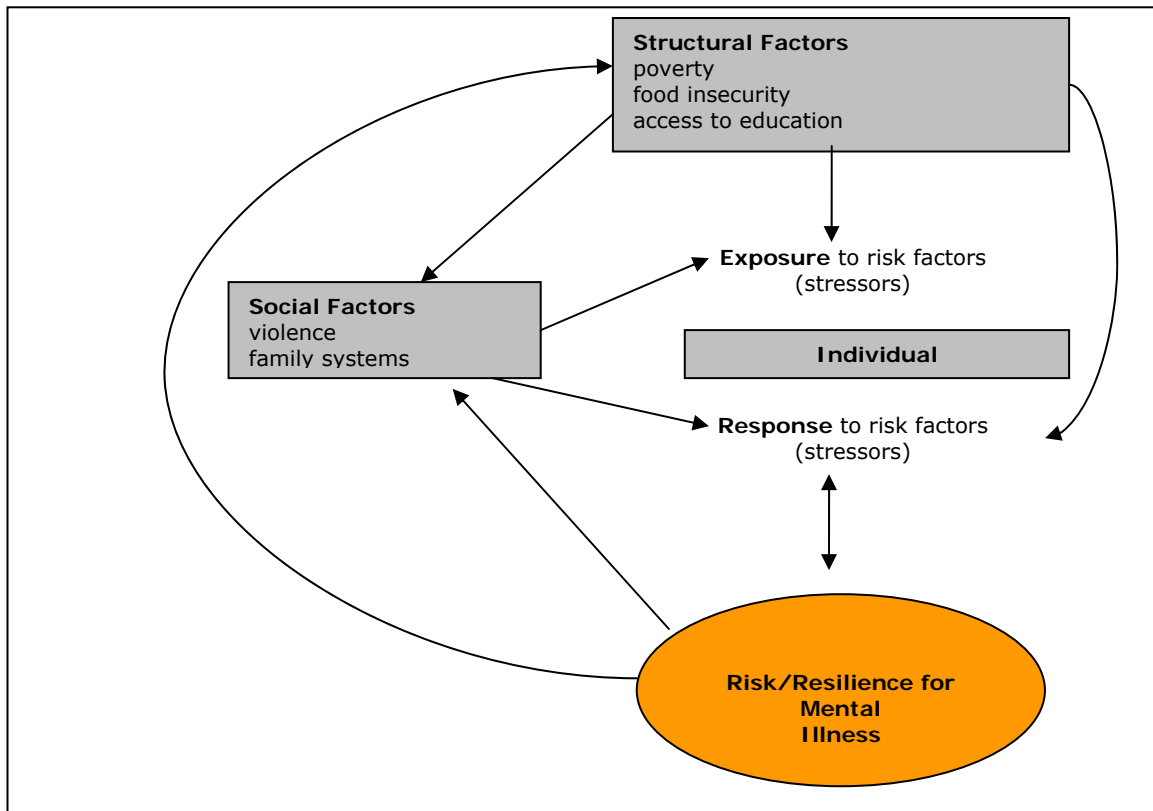
Figure 5: Classification of socio-structural determinants of mental health, based on evidence to support causality

Good evidence for causal association
- Access to mental health services
- Personal experience of trauma (violence)
- Community violence
- Food insecurity
- Family systems
- Formal education
- Recreation
- Welfare
- Gender
- Substance use
- Unemployment
- Poverty
- Occupational stress
- HIV and AIDS
- Adverse Life Events
- Death/disease/trauma in immediate social group
- Housing and the built environment
- Critical periods of risk

Mixed/contradictory evidence
- Social capital
- Pre-school education
- Migration
- Race
- Crime
- Sexual Health
- Media
- Urbanisation
- School environment

Not adequately researched
- Transport
- Basic services
- Spatial segregation
- Human rights

Although much evidence exists on the socio-structural factors associated with mental illness, imputing causality can be difficult. As Herman and Jané-Lopis (2005, p43) explain: "Evidence for direct causal pathways is generally strongest for the most immediate influences". Also, owing to the nature of the factors considered, cross-sectional study designs are often the most practical design to use. A limitation of this design is that the exposure and outcome are measured simultaneously and it is therefore impossible to impute the *direction* of causality, in other words: Can a particular cause be shown to precede the effect?

Figure 6 below illustrates the impact of social and structural factors on each other, as well as on the individual. Socio-structural factors influence the degree of exposure to stressors and the individual's ability to respond to those stressors. For example, poor access to quality education may expose a person to unemployment, which in turn may expose that person to poverty and community violence. The ability of the individual to respond to these stressors may be limited by their cognitive skills (through a lack of education), the lack of mental health services, and the accumulation of stressors such that they have cumulative effects on stress. The occurrence of mental illness will put such a person at further risk for unemployment and social isolation, and further inhibit their ability to cope with stressors. Clearly, there are also individual-level factors that determine both exposure and response to stressors, but this is not the focus of this review.

Figure 6: Illustration of the complex interactions among social, structural and individual factors leading to mental illness

The literature review also identified **particular groups that are at increased risk** for mental illness as follows:

- ➢ The unemployed and underemployed;
- ➢ Women (Depression and Generalised Anxiety);
- ➢ Men (Substance abuse);
- ➢ People living in poverty;
- ➢ Single-parents;
- ➢ People with chronic illness (HIV and other); and
- ➢ Refugees

Certain **critical periods**, where particular stages of the life-cycle are associated with higher risks for mental illness (and greater potential for preventive interventions), were found and include: early childhood, adolescence, and early adulthood and the peripartum period (the period surrounding child birth)

Selection of core areas for intervention

Focus areas for intervention were identified using the following criteria:

- ➢ The prevalence of this risk factor in the Western Cape Province;
- ➢ The strength of the evidence for a causal relationship;
- ➢ The magnitude of a contribution to causality in the Western Cape;
- ➢ Whether a vulnerable group or a critical period was affected;
- ➢ Whether it was possible to intervene;
- ➢ Whether interventions already existed;
- ➢ The factor's effects on other mental-health risks;
- ➢ The factor's effects on areas covered by other Burden of Disease groups;
- ➢ Whether outcomes of interventions could be measured;
- ➢ The probable cost of an intervention; and
- ➢ Whether the factor was unique to the Mental Health Workgroup, or whether other Burden of Disease Project workgroups would address it as a core risk factor within their areas of expertise.

Once each possible risk or protective factor had been examined in this way, each member of the Expert Workgroup was asked, independently, to rank each of the core-risk factors. These rankings were then combined to yield a rank-ordered list. This rank ordering was further discussed by the Expert Workgroup until consensus was reached.

Six core-risk areas were identified where it was felt interventions would be most useful:

1. **Trauma** (the prevention of mental illness after exposure to violence);

2. **Multiple Deprivation** (poverty, unemployment, food insecurity and housing);

3. **Pre-school** (access to affordable, high quality pre-school facilities);

4. **Recreation** (access to a range of sports and other recreational facilities);

5. **Substance Abuse** (alcohol and drug abuse); and

6. **Mental-Health Services** (prevention and screening, access to treatment)

Table 7 on page 26 presents a summary of the reasons why these areas were selected. It was also felt that all interventions should aim to increase social capital and employment, both significant determinants of mental health.

Reference

Herman H & Jane-Lopis E.(2005). Mental-Health promotion in Public Health. *International Journal of Health Promotion and Education. Supplement: The evidence of mental health promotion effectiveness: strategies for action.* 2: 42-46.p.44.

Table 7: Selection criteria with regard to risk factors for mnetal illness in the Western Cape Province

FACTOR	Extent of problem in the Western Cape	Strength of evidence for a causal relationship	Ability to intervene	Example of intervention	Duplication?	Effects of intervention on other disease groups
Effects of trauma (violence)	High	Strong	Yes	As for mental-health services, but also to include the prevention of secondary traumatisation e.g. mental- health considerations in children's courts and disaster-management programmes	Yes, but inadequate services	Injuries, HIV
Multiple Deprivation (Poverty, Unemployment, Housing, Food Insecurity)	High	Strong-moderate	Yes	Can address income through job-creation programmes, micro-credit programmes, and access to existing welfare grants. Can also address aspects of deprivation, including food programmes, housing projects,and access to basic services.	Can supplement existing interventions by including mental health considerations or components	HIV, Injuries, Cardiovascular Diseases and Childhood Diseases
Access to preschool education	High	Strong-moderate	Yes	Provide access to pre-school education particularly in high risk areas (areas with high levels of violence and poverty)	Currently a focus of the Department of Social Development: can assist in their policy development and implementation	HIV, Injuries, Cardiovascular Diseases and Childhood Diseases
Recreation	High	Strong-moderate	Yes	Recreation programmes to include physical activity and alcohol-free leisure activities/facilities	Programmes exist but inadequate	HIV, Injuries, Cardiovascular Diseases and Childhood Diseases
Substances of Abuse	High	Strong	Yes	Interventions can include taxation, responsible drinking initiatives and brief motivational interviewing	No	HIV, Injuries, Cardiovascular Diseases, Childhood Diseases
Mental Health Services	High	Strong	Yes	Improve coverage of mental health services in a range of settings including schools and prisons. Services to include screening of high risk individuals to prevent the development of mental illness	Services exist but inadequate	HIV, Injuries, Cardiovascular Diseases and Childhood Diseases

Interventions: evidence, gaps and recommendations

A brief review of the literature on interventions targeting the six focus areas was undertaken, drawing equally on policy documents, discussion with experts and managers, and an inventory of existing interventions that was conducted in 2006 (Draper & Corrigall, 2006). Current policies and legislation relevant to each topic were consulted to establish the existing policies with regard to interventions, but formal consultation with Government and other stakeholders remains outstanding and is crucial to the development of policies and programmes based on the recommendations presented here. Since this intergovernmental and cross-sectoral consultation will occur at the Development and Health Summit planned to take place in June 2007, the reader should regard the recommendations recorded in this report as subject to further discussion and input from stakeholders. Before discussing the findings of the review, however, it is important to define a few terms:

Mental Health is "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (WHO, 2005:2)

Mental Disorder Prevention "aims at reducing incidence, prevalence, recurrence of mental disorders, the time spent with symptoms, or the risk condition for a mental illness, preventing or delaying recurrences and also decreasing the impact of illness in the affected person, their families and the society" (WHO, 2004:17)

Mental Health Promotion aims to affect the determinants of mental health in order to:

> ➢ increase mental health;
>
> ➢ reduce mental disorders;
>
> ➢ reduce inequalities;
>
> ➢ build social capital;
>
> ➢ create health gain; and
>
> ➢ narrow the gap in health expectancy among different countries and groups

<div align="center">(WHO, 2004:16)</div>

Given that sub-optimal mental health (low self-esteem or compulsive behaviour, for example) is associated with multiple mental and physical disorders, poor educational outcomes, poor work performance and substance abuse, focusing on the prevention of mental disorders alone would limit the health benefits of intervention programmes. As such, mental-health promotion (which includes mental-illness prevention) is by far the superior public-health approach to reducing the total Burden of Disease in the Western

Cape Province. Furthermore, such an approach creates "spin-off" benefits for employment creation, levels of crime. and overall economic growth, to name a few.

The findings of the review are presented below; each focus area is discussed in turn and summary boxes of the key points are provided in the text.

References

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I. MULTIPLE DEPRIVATION

Although the Western Cape is seen as a relatively "wealthy" province, provincial aggregates are known to mask gross disparities in employment rates and income among sub-groups. In Cape Town, for example, more than 30% of the population live below the Household Subsistence Level (Department of the Premier, 2006:22). According to the latest Provincial Economic Review and Outlook (PERO, Western Cape Provincial Treasury, 2006), 26.3% of people in the Western Cape were unemployed in 2004, with more females unemployed than men (29.6%, compared to 23.4%), and with the majority of the unemployed being less than 34 years of age.

Furthermore, a predicted trend in rising unemployment has been coupled with an established increase in the loss of motivation to actively seek work: the number of "discouraged work seekers" was seen to double between 2000 and 2004 (Western Cape Provincial Treasury, 2006).

According to Townsend (1987), poverty can be distinguished from deprivation as follows.

Poverty refers to the lack of resources required to obtain the conventional norms of nutrition, clothing, housing, and basic services, as well as the usually healthy environmental, educational, working and social conditions, activities, and facilities, which characterise a normal society.

Deprivation on the other hand, refers to the unmet needs themselves.

The poor can thus be considered as multiply deprived where they have unmet needs in more than one domain. A good example of this is the PERO finding (Western Cape Provincial Treasury, 2006) that more than 45% of people living in informal dwellings were unemployed, compared to less than 25% of people in formal housing. As such, people in informal dwellings have unmet needs in terms of income, employment and housing, each with their attendant health risks, and can be said to be multiply deprived. How one defines the various domains of deprivation is debatable. The South African Multiple Deprivation Index study (Noble et al, 2006) makes use of five domains:

1. income and material deprivation;

2. employment deprivation;

3. health deprivation;

4. education deprivation; and

5. living environment deprivation.

On the other hand, the Provincial Growth and Development Strategy (PGDS) makes use of eight "dimensions of poverty"[2] (Department of the Premier, 2006). For the purposes of this review, multiple deprivation refers to deprivation in income, employment, housing and food security — all of which are causally associated with mental health, as discussed in the risk-factor review. Interventions targeting the other domains are addressed elsewhere in this review and in the Burden of Disease Project as a whole. Given the PERO (2006) findings on the particular vulnerabilities of women and youth, particular emphasis is given to these groups.

A. Nature of the evidence

There are two main difficulties with obtaining evidence on the efficacy of poverty-alleviation interventions for preventing mental illness and promoting mental health. Firstly, there is a shortage of evidence: poverty-alleviation interventions are not typically designed with the express aim of decreasing mental illness and — as such — mental health outcomes are not frequently measured for these interventions (Chowdry & Bhuiya, 2001).

Secondly, the quality of available evidence can be sub-optimal, for the following reasons:

➢ It is typically neither politically nor ethically appropriate to do randomised controlled trials, where one poor community receives assistance and another does not.

➢ Mental health changes are often only seen after some time and may be absent in the short term (Patel, 2005*a*).

➢ Interventions tend to be multi-faceted and it is difficult to disentangle which aspect of a particular intervention "caused" the observed changes in mental health.

➢ There are many other factors that interact with poverty to cause mental illness which need to be accounted for (confounders and mediators).

Lastly, since far less research is conducted among developing nations, there is little evidence from these countries (Patel, 2005a). As Petticrew et al (2005:204) emphasise: "this absence of evidence should not of course be mistaken for evidence of absence, and *plausible preventive interventions* can be applied". The extensive epidemiological evidence makes it clear that "Health is a fundamental part of development and vice versa" (Patel 2005a:29). Patel et al (2005b:200) suggest that –

> … the best action for promotion of mental health in developing countries will come not from evidence-based programmes, but from our acknowledgement that human development and mental health are inextricably linked.

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[2] The indicators of the eight dimensions of poverty as defined in the PGDS are: security and peace of mind; gender relations; institutions; social relations; capability; vulnerability; spatial; physical; income; and assets. (For a detailed breakdown of the dimensions of poverty that these indicators represent, see the PGDS p.21)

B. Evidence for interventions

According to the literature, several types of interventions have been tried which aim to reduce the mental health consequences resulting from deprivation in income, employment, housing and food security. Some of the interventions presented simultaneously address several domains of deprivation while others are more circumscribed. The interventions identified are classified as follows:

1. Housing and the Built Environment
2. Community Development and Micro-credit
3. Employment
4. Economic Assistance (social assistance)
5. Child Care
6. Adult Literacy
7. Food Security
8. Other

1. Housing and the built environment

The impact of the built environment on health has become an increasingly urgent concern as the last century has witnessed "the single most important demographic shift worldwide": substantive urbanisation (Galea & Vlahov 2005:341). It is predicted that, by 2007, more than 50% of the world's inhabitants will be living in urban centres. Urbanisation is also particularly rapid in developing countries.

The Western Cape Provincial Growth and Development Strategy (Department of the Premier, 2006) nevertheless appears supportive of urbanisation through its focus on investment in economic centres and its proposal to remove "false incentives", such as affordable housing from areas with less economic potential (Department of the Premier, 2006:36). Should this strategy be successful, the Western Cape will experience rapid mass urbanisation first-hand. Under such conditions the City of Cape Town itself will face a massive demand for housing in addition to its current backlogs. A proper understanding of, and planning for, the impact of housing and the built environment on health — and mental health in particular — is therefore crucial to containing the Burden of Disease in the province.

The impact of the residential environment on mental health results from the physical (built) and social environment at both the housing and neighbourhood level (Thomson et al, 2003). Relations among urban design, health behaviour, crime, and violence, suggest the prevailing close interactions between the built and social environment (Galea & Vlahov, 2005). The social environment can also impact on the built environment as can be seen, for example, in the construction by higher income groups of "gated" communities in response to their experience of high crime levels in the Northern Suburbs of Johannesburg. This section of the review concerns itself with the mental health impact of the *built environment,* which includes

the quality of building materials, the overall design of the individual buildings, and the layout of housing units and neighbourhoods.

1.1 Housing interventions
In a systematic review of the effect of housing interventions on health, Thompson (2003) report that improvements in mental health (encompassing negative affect, psychological distress and psychiatric disorder) were found in all but one of the identified studies and that these improvements were seen from one month to five years after housing improvements were completed. They report that a large randomised controlled trial demonstrated a dose-response relationship between housing improvement and mental health such that the greater the number of housing improvements, the better the mental health outcomes of the intervention population (Thomson et al 2003). Other improvements noted in recipients of housing interventions include:

➢ improved physical health (although there is contradictory evidence on this count);
➢ perceptions of safety;
➢ crime reduction;
➢ social participation; and
➢ a reduced sense of social isolation and improved perception of the area.

(Jané-Lopis et al 2005; Northridge 2003)

Rehousing the mentally ill has also shown reductions in anxiety and depression scores a year after rehousing occurred (Weich 1997).

Evans et al (2003) evaluate the evidence on the mental health effects of housing interventions in terms of housing type and housing quality. "Housing type" refers to whether or not the dwelling is a house or a multi-dwelling housing complex (typically high-rise flats). The authors identify 18 studies, three of which used random assignment to housing type (Evans et al 2003). Most of the studies, including all three randomised trials found that multi-dwelling housing is associated with worse mental health (psychological symptoms and social connectedness). Six of the studies compared the mental health of high versus low-floor residents and found consistently worse mental health in those on higher floors compared to low floors (confirmed by one RCT). The authors also reported greater childhood behavioural problems and restricted play opportunities in high-rise dwellings. A randomised, controlled trial also reported increased rates of juvenile delinquency in high-rise versus low-rise residents, which has also been confirmed by observational studies. Several mediators of the effects on children have been postulated more strict parenting, resulting from safety concerns; lack of recreational spaces; and lack of contact with natural spaces (Evans et al 2003).

Housing quality includes both objective and subjective appraisals of housing quality: structural deficiencies, pest control, dampness and housing dissatisfaction. Evans et al (2003) identified 26 studies (four of which used experimental designs) which measured the effect of housing quality on mental health. All found a positive association between housing quality and psychological well-being. The postulated mediating processes are self-

esteem; anxiety about safety and hygiene; lack of control over maintenance ; and fear of crime (Jané-Lopis et al, 2005; Saegert and Evans, 2003).

Table 8 below indicates other housing factors that have been associated with mental health outcomes in observational studies.

**Table 8: Housing factors found to impact
on mental health from observational studies**

Variable	Effect on mental health	Moderators of effect
Housing tenure	Home-owners have better MH than renters (Thomson et al 2003)	Except where bond-repayments are unaffordable (Thomson et al 2003)
Housing relocation	Involuntary relocation associated with loss of social capital, poor socio-emotional development of children (Thomson et al 2003; Evans et al 2003)	
Overcrowding	Overcrowding may be associated with poorer mental health depending on the presence of other moderators	• Nature of relationships and personalities in the household (Halpern 1995) • Design of the house (Ahretzen 2003) • Type of housing (worse in multi-dwelling units) (Evans et al 2003)
Home-sharing	Beneficial for the elderly, disabled, single parents (Ahretzen 2003)	
Housing costs	Unaffordable housing can contribute to psychologically distress (Thomson et al 2003)	Socio-economic group

Findings in several studies highlight that those who a lot of time at home are most vulnerable to the mental health effects of poor housing (Howden-Chapman, 2004). According to Evans et al (2003:495) —

> … sufficient evidence exists to claim that housing does matter for psychological health. This is particularly true for low-income families with young children.

> **Conclusion**
> - ➢ The Western Cape can expect to see mass rapid urbanisation with increased demands for housing and infrastructure.
> - ➢ There is strong evidence that shows housing matters for mental health. Both housing type and housing quality impact on psychological health, social connectedness, crime and child development.
> - ➢ Women with young children and the unemployed are most vulnerable to the effects of housing.

1.2 Neighbourhood built-environment interventions

Several authors have noted that improving housing alone is insufficient to improve health and that one must also consider the effects of the built and social environment at the level of the neighbourhood (Howden-Chapman, 2004; Evans et al, 2003; Catalano & Kessell, 2003). As Saegert and Evans (2003:578) note -

> Resource-poor residents located in places with poor housing, poor schools and services, and socially fragmented neighbourhoods would be likely to experience ill health, lower levels of education and occupational attainment, and, over time, less access to resources and choices.

This assertion is confirmed by the finding that families who have relocated to similar housing types in a middle-class area showed greater improvements in mental health than their counterparts who moved to a low-income area (Evans et al, 2003; Truong and Mai, 2006). Since the social environment of the neighbourhood is dealt with elsewhere in this report, this section considers only the impact of the neighbourhood's built environment on psychological and social health.

Interventions typically take the form of community renewal or regeneration, targeting various aspects of the built and social environments of disadvantaged neighbourhoods. Evaluations of these interventions tend to be in the form of before-and-after studies, which have consistently shown improvements in mental health (Howden-Chapman, 2004; Thomson et al, 2003; VicHealth, 2004). Other reported benefits include: a reduced sense of isolation and fear of crime; an increased sense of belonging; increased community involvement; greater recognition of neighbours; and an improved view of the area as a place to live (Thomson et al, 2003).

An example is provided by the **_Neighbourhood Renewal Project,_** run by the Victorian Health Promotion Foundation (VicHealth), in which the most disadvantaged communities in Victoria were allocated resources for improving housing, jobs, health and services, and towards reducing levels of crime. The programme utilises a community-development approach, whereby communities collaborate with government and business to achieve the aims of the project. The specific nature of the neighbourhood-renewal interventions differed according to the area in question and included: improving security measures; refurbishing houses; landscaping; job creation; and community

arts programmes. (For further details, see VicHealth, 2004.) The outcomes measured in before-and-after study designs indicated significant improvements in "community pride"; job creation; increased employment; a rise in property prices; improved perceptions of housing conditions; reductions in the levels of crime; and improved perceptions about government performance (VicHealth, 2004).

The other type of intervention that has been mentioned is relocation. In a randomised, controlled study, the **Moving to Opportunities** (MTO) Programme was implemented in five cities across the United States of America (Saegert and Evans, 2003). Those in the intervention group were relocated from poor areas into geographies of greater opportunities, while controls remained in the poor areas (both groups having similar housing in the different settings). The findings indicated an improved quality of life; greater mental and physical health; less use of harsh parenting techniques; and increased employment in the intervention groups. This finding was confirmed by other randomised, controlled trials, where similar interventions produced a 50% decrease in the prevalence of mental disorders in low-income neighbourhoods (control group) (Truong & Mai, 2006).

Data from non-experimental studies have also indicated what other factors at the neighbourhood level may be important as summarised in Table 9 below.

Table 9: Built environment factors found to impact on mental health from observational studies

Variable	Effect on mental health	Moderator of effect
Access to public spaces & layout of neighbourhood	Increases opportunities for psychological restoration, improves physical activity and social interactions (Saegert and Evans 2003; Kaplan 2004; Frumkin 2003)	Perception of safety
Noise pollution	Commonly causes insomnia, impaired concentration and irritability (Howden-Chapman 2004)	
'Walkability' of a neighbourhood	The more pedestrian-orientated the neighbourhood, the greater the sense of community (Lund 2002;Kaplan 2004; Frumkin 2003)	
Natural features, green spaces	Improves sense of community, anxiety, childhood behavioural disorders (Kaplan 2004; Howden-Chapman 2004; Frumkin 2003)	

1.3 Cumulative risk
The unequal distribution of economic and social capital results in the most disadvantaged members of society being exposed to the greatest number of housing and neighbourhood risk factors (Saegert and Evans, 2003). The accumulation of multiple stressors over long periods of time results in greater psychological and physiological effects (Saegert and Evans, 2003). This

association and the evidence on the health-housing relationship has led researchers to conclude that housing or neighbourhood factors are an important mediator of observed health inequities across socio-economic groups (Saegert and Evans 2003). It has also been found that those who have poorer health have greater difficulty accessing good housing (Smith et al 2003; Thomson et al 2001), and as such the vicious cycle comes into play.

Conclusion
- ➤ Improving housing alone is insufficient to improve health; the neighbourhood built and social environment must also be improved
- ➤ The most disadvantaged members of society have the worst access to adequate housing

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Several interventions target poverty alleviation at a community level as a means of reducing mental illness and thereby encouraging economic empowerment. Given the varied uses of this terminology, it is important to have clear definitions of what we mean by community development and economic empowerment.

Community Development is an approach that "seeks to develop the social, economic, environmental and cultural well-being of communities" through the development of existing community networks (Arole et al, 2005:243). Community members identify and prioritise local problems together, which are then addressed by collaboration among community members, Government, Non-Governmental Organisations and private business. This ensures that interventions are locally relevant, empowering for communities, and sustainable (Patel et al 2005b; Jané-Lopis & Barry 2005). The effect of community development on mental health is presented in Figure 7 on page 38 below.

Economic empowerment encompasses access to adequate income and employment; employment equity; increased opportunities for control in employment; and possession of the necessary life skills for negotiating the labour market (VicHealth, 2007).

There are very few good quantitative studies in this area, since many of the study designs are before-and-after studies, which make it impossible to exclude secular trends in accounting for observed differences. For example, mental-health improvements may be due to other changes in the environment that occurred during the study period, such as new government feeding schemes, and so on. This review aims to highlight the best research in the area, while also acknowledging interventions which might still require further, empirical evidence.

Probably the best researched intervention in this area is the Rural Development Programme run by the ***Bangladesh Rural Advancement Committee (BRAC)***. BRAC is the world's largest NGO in terms of the scale and diversity of its interventions (Chowdhury and Bhuiya, 2001). One of its projects is the ***Rural Development Programme (RDP)*** which is a poverty-alleviation and women's empowerment programme that has reached nearly three million poor women in more than 50 000 villages in Bangladesh.

In each village a Village Organisation (VO) is formed by the poorest villagers. Activities of the VO members include awareness and advocacy for human rights, and the initiation of a compulsory savings programme. BRAC staff train members of the VO in different trades (such as village health worker, poultry vaccinator, and so on), who then provide for the members of the VO and sell their services to other villagers for a small fee. After a month of membership, VO members may apply to BRAC for an individual loan, which is granted for use in income-generating activities, or for housing.

Several studies have been conducted to evaluate the programme and found that BRAC members' financial status improved after joining the project, and that BRAC households spent significantly more money on food and had greater amounts of money left over for other expenditures than non-BRAC households.

BRAC families also had lower rates of malnutrition, improved child survival rates, and improved mental health. The effect on physical violence against women was mixed: members who had savings and credit without training reported more domestic violence compared to non-members, but those who had savings, credit and training reported significantly less violence than non-members (Chowdhury & Bhuiya, 2001).

Ahmed & Chowdhury (2001) also reported an increasing prevalence of "emotional stress'" shortly after receiving micro-credit, which then reduced after training was given to the loan recipients. The authors argue that the increased emotional stress was due to the challenging of traditional gender norms, which in turn resulted in increased domestic violence (as above).

In this instance, more attention should be paid to involving men in the project such that a forum to ameliorate potential gender tension is created. The other significant effect of providing credit without training is the stress that can result from the lack of skills to effectively manage the loan, hence the importance of providing training and support to loan recipients is highlighted.

The *Comprehensive Rural Health Programme (CRHP)* is a similar intervention that aims to improve health and well-being in impoverished rural villages in India. It is a multi-faceted intervention which brings together groups of people (farmers' clubs and women's' groups) to define and address the problems of the village.

Community members identify a woman in their community suitable for training as a village health worker who is then trained in locally relevant primary health care as well as in "programme skills", including techniques for mobilising community support, income-generation, and small-loan management (Arole et al, 2005). The village health worker then shares this knowledge with the community groups.

The outcomes cited by the World Health Organisation include: improved physical health; nutrition; gender equity; social support; skills acquisition; financial autonomy; and social empowerment (Arole et al, 2005). The evaluations are clearly of a pre-post nature but how the outcomes have been assessed is not clear. The programme was first implemented in 1970 and with its successes has expanded to over 300 villages with a combined population of 500 000 people (http://jamkhed.org/History.shtml. Accessed 22 January 2007).

**Figure 7: The relationship between Community Development
and Mental Health in the villages of the CHRP**

Community Development

Increase in:
Social relationships and support
Social capital
Social safety nets
Effective coping skills
Improved housing , health care and education
Economic development
Physical health
Cleaner Environment
Economic independence of women
water resources
Empowerment: people believing they can identify solutions and create change
Capacity to show compassion for those who are more vulnerable
Empowerment of women: more girls in school, fewer problems relating to negative adolescent experiences
Reduced domestic violence
Equity and opportunities for marginalised groups
Decrease in:
Alcohol abuse
Domestic Violence
Caste Discrimination
Fear of physical illness
Corruption and crime
Inequality
Social isolation

Mental Health

More locally, a micro-finance intervention was tested in the Limpopo Province of South Africa; the **Intervention with Micro-finance for AIDS and Gender Equity (IMAGE)** combined a micro-finance intervention for poor women with a participatory curriculum of gender and HIV education using a community development approach (Pronyk et al, 2006). A randomised, controlled trial compared outcomes two years after the initiation of the programme and found statistically significant improvements in household assets (Adjusted RR: 1.15 95% CI: 1.05-1.28), communication with household members about sexuality (Adjusted RR: 1.58 95%CI: 1.21-2.07) and a reduction of intimate partner violence (Adjusted RR 0.45 95%CI: 0.23-0.91) in women receiving credit compared to controls. No significant differences were found in terms of perceived social capital among this cohort.

One of the main limitations of the study is that — owing to the nature of the intervention — it is not possible to know whether reductions in partner violence were as a result of the gender-equity training or the micro-finance provision. **FED-UP**, discussed above, is another example of how micro-finance and social capital can be utilised to reduce poverty (housing deprivation, in this instance).

Opponents to the provision of micro-finance alert us to possible pitfalls of this approach. In his critique of micro-finance solutions for development in Africa, Buckley (1997) argues that providing credit to those who cannot access credit through conventional channels disrupts self-selection such that those with insufficient business acumen and credit-management will inevitably be the recipients of these loans. By implication, this would make micro-credit interventions a poor investment and could also potentially create more "stress" for recipients, who would then have to repay these loans with interest without having generated sufficient income from them. While this line of thinking ignores the structural barriers to accessing credit, Buckley's concerns highlight the need to have a selection process and to provide skills training so that loan recipients are in a position to utilise the credit to their benefit, as confirmed by the findings of the BRAC study.

> **Conclusion**
> ➢ Outcomes of community development and micro-finance interventions include improvements in mental health, child mortality, food security, financial autonomy, human capital and domestic violence.
> ➢ Caution must be taken to avoid possible negative effects of micro-credit through use of selection criteria and provision of training and support.

3. Employment interventions

These interventions seek to increase employment of vulnerable groups either directly or indirectly through increasing job-seeking abilities. The latter ably addresses the loss of motivation to seek employment that can arise in the context of high unemployment rates. As described above, the Western Cape is increasing seeing this phenomenon of 'discouraged workers' (Western Cape Provincial Treasury 2006).

The Michigan Prevention Research Centre in the United States designed the *JOBS (Job search) programme,* which assists unemployed individuals to obtain high quality re-employment with the aim of improving their mental health (Vinokur et al 1991; Vuori et al 2002). The intervention consists of five half-day workshops over a week delivered by two trainers to small groups (10-18) of unemployed people. The content of the workshop includes:

- ➢ assisting participants to identify their skills;
- ➢ building self-sufficiency, self-confidence and motivation;
- ➢ training in job searching skills; and
- ➢ enhancing participants' ability to persist in the face of setbacks.

This programme has been evaluated by large-scale randomised controlled trials, where programme participants were compared to a control group of unemployed people. The results indicate that, up to two years after the programme, participants were more likely than members of the control group to be employed, working more frequently and earning a higher monthly income (Vinokur et al 2000). The intervention also had a beneficial impact on mental health outcomes. Findings along these lines were replicated in other randomised controlled evaluations of the same programme in Finland, China and Ireland where the programme has been successfully disseminated (Hosman & Jané-Lopis , 2005). The successful implementation of this programme in diverse settings suggests that this intervention is successful in different economic contexts; the differences in outcomes observed in the dissimilar settings were mainly related to who benefits most from the intervention (Vuori et al 2002, I-7). A cost-benefit analysis of the programme demonstrated large net benefits for the programme (Vinokur et al 1991).

VicHealth has instituted many economic empowerment interventions in a range of settings in Australia. African communities in Australia were given training and support to start up financial projects in different parts of Australia e.g. a community newspaper and a carpentry business (Walker et al 2005).Another programme funded the evaluation of mental health outcomes of existing youth employment programmes run by other organisations (VicHealth 2007). "Qualitative" pre-post evaluations indicate improvements in self-esteem, family, employment and community pride.

Conclusion
- ➢ There is strong evidence to support employment-oriented interventions as effective in promoting mental health and increasing financial autonomy.
- ➢ Targeting job search motivation and skills is effective in increasing employment, its quality and duration and mental health.

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4. Economic assistance

Limited evidence was found on the mental health impacts of social assistance provision. A South African cross-sectional study (Case, 2004) in the Langeberg District evaluated the health impact of old-age pensions on household health. Findings indicated that adults living in households with a

pensioner were significantly less likely to report symptoms of depression than members of households without a pensioner. They were also more likely to report better overall health, have a flush toilet, and were less likely to have skipped a meal. Pensioners themselves enjoyed these same benefits as the other household members and in addition were less likely to report deteriorations in health status due to limitations on activities of daily living. Similar associations were not found in households with elderly people not receiving a pension. These findings concur with findings of other research in South Africa, which consistently found that "the ultimate impact of the grant must be understood at the household level" (Bhorat, 2002).

The potential harms of social assistance should also be considered, however, with social assistance recipients demonstrating a reduced sense of "mastery" (agency, autonomy) compared to people of similar socio-economic status not receiving social assistance (Heflin et al 2005). As such, social assistance programmes should, where possible, aim to empower social assistance recipients to return to work.

Conclusion
 ➢ The limited evidence available strongly suggests both mental and physical health benefits associated with economic assistance, benefits which accrue to the household.
 ➢ Where possible, welfare recipients should receive training for, and assistance with, regaining employment in order to facilitate economic empowerment, which is preferable to welfare dependence.

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5. Child-care programmes

Doherty et al (1995) define child care as care for preschoolers through to underage 12-year-olds outside of school hours by people who are not family members. The Guidelines for Early Childhood Development Services (Department of Social Development, 2006), consider child-care services for children aged 0-9 years.

Both ecological and cross-sectional studies have demonstrated that access to child care is associated with increased maternal employment and enrolment in educational activities (Ficano et al, 2006). For example, in the USA, data from 4,400 American women with children under the age of 13 (Hofferth and Collins, 2000) showed that not having access to a formal, non-parental child-care arrangement, distance longer than 10 minutes from home to a child-care centre, and high cost of child care were associated with a higher probability of job exit. Although this study had a low response rate (57%), which may have resulted in selection bias, these findings have been confirmed by other studies (Crawford, 2006).

Child care has also been shown to assist mothers on social-assistance grants in re-entering the labour force. A randomised controlled trial in the USA found that access to child care (in the form of child-care subsidies) decreased the transitional time from receipt of social assistance to substantial employment

by 11-34% (Ficano et al, 2006). This effect was found to be strongest among the poorest of the population.

With regard to this evidence, Doherty et al (1995) argue that the provision of high-quality child care is fundamental in enabling parents to enter and remain in employment. Publicly funded or subsidised child-care programmes promote women's economic and social equality, enable families to become economically self-reliant, and therefore represent an opportunity to reduce poverty and inequity. While none of these studies evaluated mental health outcomes, there is some evidence of the association between child care and mental health. In a cross-sectional study of low-income working mothers living in poor urban neighbourhoods in Philadelphia (USA), Press et al (2006) found that mothers who had problems with child care were significantly more likely to report depressive symptoms (after adjusting for confounders).

No studies were found that evaluate the mental health impact of child care on children older than 5 years. One would have to consider the mental health impacts of separation of children from their parents. The quality of child care services should be such that child care is psychologically and cognitively beneficial to the child (as discussed in pre-school education).The 2006 Department of Social Development Guidelines state the following as minimum requirements:

> Buildings, equipment and play areas must be clean and safe;
> Food must be provided once per day by parents or service;
> Premises must be disability-friendly;
> Ill children must be cared for in a responsible manner;
> Systems must be in place for the efficient management of the centre;
> Privacy of children and families must be respected;
> Children must be given appropriate developmental learning activities and care in a culturally sensitive environment;
> Staff must be adequately trained;
> Parental involvement should be seen as an integral part of child care, and relationships between the service, parents and community should be nurtured.

Conclusion
> Access to affordable, quality child care enables women (parents) to enter the work force and is associated with increased maternal employment, enrolment in education and transition from welfare to the labour market.
> The mental health outcomes of child care on children older than 5 should be evaluated.
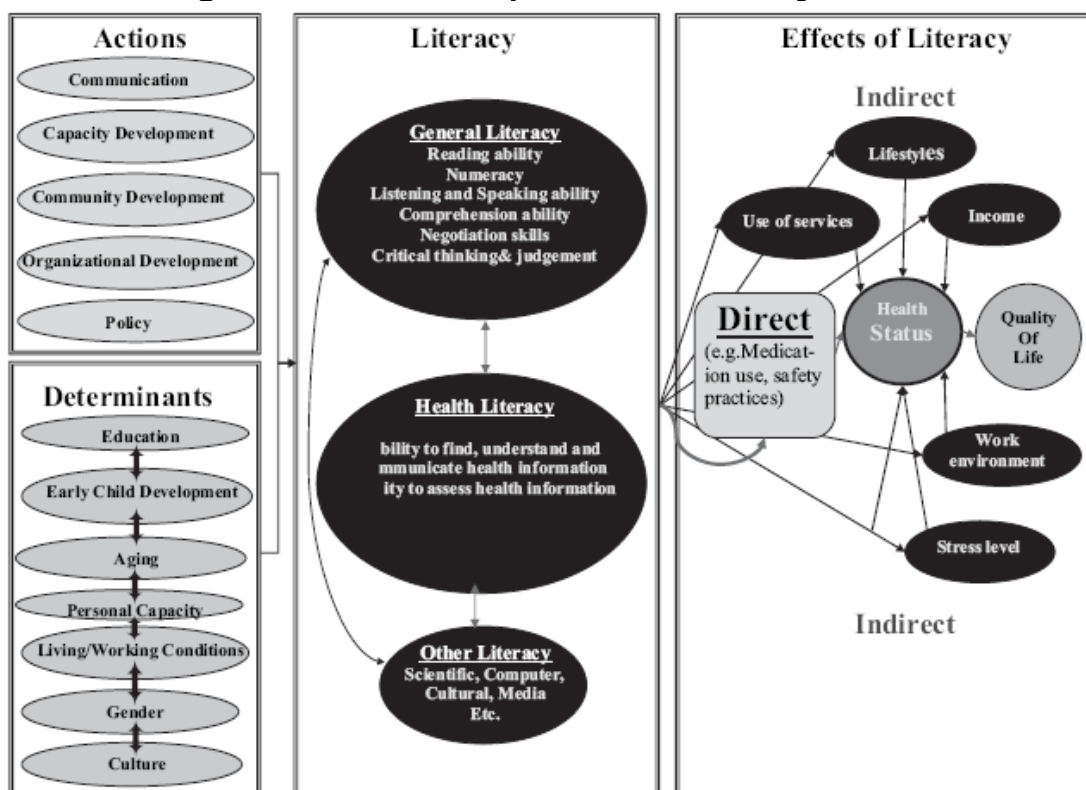
6. Adult-literacy programmes

One definition of literacy is when a person possesses the knowledge and skills in reading and writing which enable them to engage effectively in all those activities in which literacy is normally assumed in their culture or group

(Rootman & Ronson 2005, pS64). Differences in what constitutes literacy are therefore related changes in the core skills required to engage effectively in basic activities in different societies over time. With rising standards of literacy and skills, people have begun to speak of "literacies" with media literacy, computer literacy and health literacy becoming part of core skills in certain settings (Rootman & Ronson, 2005).

Literacy is known to be associated with overall health and mental health, which occur by means of both direct and indirect mechanisms, as illustrated in Figure 8 below. Indirect mechanisms are seen to relate to the effects of low literacy on socio-economic status with literacy linked to lower incomes, higher unemployment and lower wages (Rootman and Ronson, 2005). While there are no rigorous studies on the mental health effects of literacy interventions, improving literacy should plausibly improve both health (general and mental) and employment outcomes (Rootman and Ronson, 2005).

Figure 8: Relationship between literacy and health

(Source: Rootman & Ronson 2005, p.564)

Conclusion
> ➢ Literacy affects health, employment and income; while there is no good-quality, empirical evidence that literacy interventions improve mental health, this is highly plausible.

7. Food-security interventions

As discussed in the review of evidence, food insecurity may affect mental health directly as a consequence of nutritional deficiencies; or indirectly,

through the stresses associated with food insecurity (Heflin et al, 2005). Although the literature tends to focus on the mental and physical health effects of preventing malnutrition in children (Patel et al, 2005), this work ignores the effects of food insecurity on the family as a whole, and mothers in particular (see Risk Review). A serial cross-sectional study was found which evaluated food insufficiency status and depressive status at three points in time over three years (Heflin et al, 2005). The findings indicated that changes in food security are significantly associated with changes in depressive status. Yet empirical data on the mental health outcomes of interventions targeting food insecurity at the household level were not found. Given the strong evidence of preventing malnutrition in children, however, it is highly plausible that interventions targeting food security will improve the overall mental health of communties.

> **Conclusion:**
> ➢ There is strong evidence that preventing child malnutrition is associated with improved mental health but there is a lack of evidence to show the effects of food-security programmes in general. It is nevertheless highly plausible that such programmes would improve mental health.

8. Other

According to the World Health Organisation's view on mental illness prevention (WHO, 2004) a variety of workplace policies can be used to decrease job loss and unemployment including: job sharing; job security policies; cutbacks on pay; and reduced hours. While the authors argue that the ability of such policies' to reduce mental illness related to unemployment is "obvious", there is not yet any empirical evidence against which to test these assertions. Others have suggested that increasing the minimum wage and instituting progressive tax policies which are pro-poor would in all likelihood improved the mental health of the poor (Vichealth 2007). This is interesting in the context of the introduction of wage subsidies in South Africa which, if we follow this line of argument, will plausibly improve the mental health of its recipients. No studies researching the impact of such policies on mental health were found.

> **Conclusion**
> ➢ Other policies related to job security measures, raising the minimum wage and progressive tax policies are similarly lacking in empirical evidence and are also likely to improve mental health.

C. Existing Interventions in the Western Cape Province

1. Housing

The vision of the **National Housing Policy** of South Africa is outlined in the definition for "housing development", contained within the Housing Act, 1997 (No. 107 of 1997):

1(vi)	"…the establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities, in areas allowing convenient access to economic opportunities and to health, educational and social amenities, in which all citizens and permanent residents of the Republic will, on a progressive basis have access to -
	(a) permanent residential structures with secure tenure, ensuring internal and external privacy and providing adequate protection against the elements; and
	(b) potable water, adequate sanitary facilities and domestic energy supply."

Given the evidence regarding the impact on mental health of affordable housing and a quality built environment described above, it is clear that the vision of our Housing Policy already recognises and makes provision for a range of health protective mechanisms such as privacy, social connectivity, access to the economy and access to health. Furthermore, the **Housing Code** makes provision for a range of housing subsidies where the poor can access up to R36 528 (http://www.capegateway.gov.za/) in order to purchase a house. Since 1994, the Department of Housing has delivered more than 2 million houses as of September 2006 (http://www.housing.gov.za/) which is an achievement. Despite this impressive delivery, it has been estimated that approximately 30% of South Africans still have inadequate housing with the numbers of people on the waiting list for housing at 2.4 million (Oldfield, 2007).

Some of the criticisms that have been made about housing delivery are illustrative of the gaps between the vision of the Housing Act and its successful realization or implementation. Baumann & Mitlin (2003) and Oldfield (2007) note the following problems:

- ➤ the large gap between the supply of, and demand for, housing;
- ➤ the slow delivery of housing;
- ➤ the poor quality of state housing (top structures and supporting infrastructure) with houses typically being small (less than 12m^2) and overcrowded;
- ➤ the location of state housing in remote areas, where economic and social opportunities are scarce and transport costs are high;
- ➤ the lack of community involvement in the process of rehousing;
- ➤ an insufficient regard for social networks in the process of rehousing;

> an insufficient recognition of the need for "emergency housing" with waiting lists compiled on the basis of chronology rather than urgency;

> the limited ability of housing applicants to financially contribute towards the costs of housing, with most applicants unemployed and earning less than R1500 per month (Oldfield 2007).

The context in which the Department of Housing must progressively deliver quality housing is not entirely ideal, however, with a continually growing demand for housing outstripping the Department's ability to supply high-quality, yet affordable housing in desirable, yet affordable, neighbourhoods. These problems can be expected to increase with increased urbanisation and poverty (Oldfield 2007).

The **Federation of the Urban Poor (FEDUP)**, together with The People's Dialogue on Land and Shelter are an NGO and network respectively of grassroots organisations that combine loan finance with social capital in savings schemes to enable groups of people to buy homes in South Africa (Baumann & Mitlin, 2003). It has resulted in the purchase of 10 000 homes in five years. Communities learn the skills necessary to oversee the construction of their homes and to manage their finances from other communities. The loans are then provided to saving-scheme members either as "bridging" finance or to "top up" housing subsidies so that better quality houses can be purchased than those bought through Government. The Federation also assists groups in negotiating access to land and services (Baumann & Mitlin, 2003).

The project is regarded as highly successful and is supported by an extremely favourable cost-benefit analysis, which found a net benefit of R540 million. Part of the net benefit, which passes directly onto the homeowners, is that the value of federation houses increases over time, which stands in contrast to "RDP" houses, where beneficiaries often sell for less than the building costs. Additional benefits of this programme include empowerment, economic participation and enhanced social and human capital. In terms of mental health, these benefits accrue to health capital. In recognition of FEDUP's successes the Department of Housing recently donated R185 million to the Federation of the Urban Poor (FEDUP) to support their efforts in providing housing.

(See http://www.sdinet.org/documents/doc17.htm)

> Principles of Housing Act are mostly in line with research findings.

> Housing delvery criticised for slow pace, inequitable allocation, reinforcement of spatial segregation problems, lack of community participation, poor quality of housing

> Constraints include poverty of housing applicants and lack of affordable land in desirable areas

> The need for housing increasingly outstrips the supply and is due to worsen

> FEDUP has demonstrated success in innovative ousing delivery mechanisms

2. Urban Renewal

The **Urban Renewal Strategy** was approved by the National Cabinet in October 2000 and eight urban renewal pilot areas were identified nation wide. In the Western Cape Province, the townships of Khayelitsha and Mitchell's Plain were selected for Urban Renewal.

(See http://www.capegateway.gov.za/Text/2003/ urp_pamphlet.pdf.)

These programmes are administered by the Department of Local Government and Housing and aim to provide access to basic services, housing, health and recreational facilities, to create 'social infrastructure', alleviate poverty and prevent crime. The audit of the Programme in 2003 in Khayalitsha indicated that a comprehensive range of activities have been undertaken, including: skills development and employment programmes for vulnerable groups; the provision of child care; improvements of the built environment (streetlights, roads, infrastructure, sports facilities); and the establishment of community police forums and safe schools to name a few measures.

(See http://www. capegateway.gov.za/Other/ 2003/audit_prov_ projects_khaye_june2003.htm.)

Clear outcome measurement is not evident in the audit of the programmes, and no health outcomes were mentioned. Although funding in general has increased from 2003 to 2006, funding for certain projects was discontinued, and the reasons for this event were unclear. Despite the apparent successes of this programme, moreover, it does not appear to have been expanded to include equally, and more deprived, areas.

> ➢ Comprehensive Urban Renewal strategies have been implemented in two areas of the Western Cape. An audit of these programmes does not indicate the measurement of outcomes. If successful, these programmes should be expanded to cover other townships.

3. Integrated Poverty Reduction Strategy (IPRS)

The Department of Social Development and Poverty Alleviation formulated the Integrated Poverty Reduction Strategy (IPRS) to address the multiple components of poverty in the Province and in the context of a large number of poverty alleviation projects not having demonstrated resounding success (Western Cape Department of Social Development and Poverty Alleviation, 2005).

The authors of the strategy review a range of large-scale poverty alleviation projects administered by various Departments (Education, Social Development, Public Works and Local Government) and highlight the need to address the following imperatives in order to achieve greater success. (See the Integrated Poverty Reduction Strategy. pages 26-31, for details)

> ➢ A programmatic response involving all stakeholders;

> ➢ Consensus-based decision making by local/community institutions supported by higher levels of government;

> ➢ Programme design should pre-empt and plan for barriers to implementation;

- Community buy-in and participation is essential;
- Dedicated resources for poverty reduction in the local and provincial spheres of government (staff and funding);
- Assistance and training to enable communities to manage their own projects with ongoing support by stakeholders and experts;
- Financial allocations to projects need to be sustained beyond once-off payments; and
- Effective monitoring and evaluation of outcomes.

From this review, the IPRS proposes that Local Government must be the primary driver and facilitator of programmes and programmes should build on existing knowledge and skills within communities such that communities have the capacity to contribute to solutions. According to the IPRS, "the importance of community-based institutional development cannot be over-emphasised" (Western Cape Department of Social Development 2005, p38) and the document details the necessity of this for sustainability of programmes. This approach bears a striking resemblance to the community development approaches discussed in the evidence above.

In line with findings on vulnerable groups, the IPRS focuses on programmes that target the development of disadvantaged women and the youth in general. Key areas of the strategy are the provision of basic services and housing, the provision of child care, skills development, employment creation (through links to the Exapnded Public Works' Programme), micro-economic development and building institutional capacity and social capital. Provisions of infrastructure for micro-credit is cited as one strategy for fast-tracking the entry of the poor into the "economic mainstream". The IPRS also proposes investment in rural areas with potential growth in an attempt to discourage migration to the cities and urban areas.

> - The Integrated Poverty Reduction Strategy highlights similar areas for intervention as the review. The main problems appear to be in putting these interventions into practice.
> - The IPRS highlights several reasons why previous programmes have not been as successful as hoped. These include a lack of community participation and continuous, dedicated resources
> - The IPRS identifies Local Government as the most important driver of poverty alleviation programmes.

4. Social assistance

Provision of social assistance is viewed by the Department of Social Development as the largest poverty alleviation measure undertaken by government (Western Cape Department of Social Development 2005), and it has been shown to have been highly beneficial for recipients as discussed above.

Despite its successes, it is not without its failures. A review (Naidoo et al 2004) of social security in South Africa during 2000-2002 highlights several

problems. Among those eligible for social security under the current system there is a large gap between who is eligible and who receives the grant. Statistics from the National Department of Social Development, for example, show that of the 3.3 million children eligible, only 1.5 million received the child support grant.

Accessing child support grants is particularly difficult in rural areas. Despite the successes of this programme, there are many problems: (1) the primary caregiver is required to show proof of identity, employment income and other means of child-support. Evidence has shown that the most poor are unable to fulfil these requirements due to insufficient means to pay for these documents or for transport to the relevant government departments (police, home affairs, social services) (Leatt, Rosa, & Hall, 2005; Giese et al., 2003). (2) The number of children in a house is not considered, as such a person earning R1200 per month with 5 children would not be eligible, yet a women earning R1000 with one child will be eligible (Leatt et al., 2005). These problems highlight some of the difficulties associated with accessing social security in South Africa.

A further problem is the exclusion of many South Africans who need social security but are not eligible for it under the current system. Frustration with the social security system has led to the campaign for a Basic Income Grant which has yet to be approved by government (Naidoo et al 2004).

The Department of Social Development has recently launched a Discussion Document entitled Linking Social Grants Beneficiaries to Poverty Alleviation and Economic Activity (Western Cape Department of Social Development 2006). The document details strategies to increase the movement of social assistance recipients to employment which include creating employment for disabled people and single mothers, particularly in civil service.

> There are many barriers to accessing exisiting social assistance grants: the poorest have the least access to these grants.
> Many South Africans live below the poverty line and are not eligible for social assistance.
> The Department of Social Development is launching a programme to link social assistance recipients to employment.

5. NGO poverty-alleviation programmes

There are a range of projects run by non-governmental organisations which alleviate poverty and can assist with this objective for example, Men on the Side of the Road, Ikamva Labantu and The Big Issue. To quote one example, the Big Issue recruits people who are homeless, living in "vulnerable accommodation" or long-term unemployed to be magazine vendors (www.bigissue.com/southafrica/). Since 1996 it has registered 2,524 vendors who are able to access a "social support programme' which includes alcohol/drug support meetings, computer, art and literacy classes, "job club'" and assistance with finding accommodation. This organisation appears to

understand the relationship between mental health and employment which is suggested by the nature of their support programme and the "activate self-esteem" pinafores worn by the vendors. No empirical evidence on the mental health outcomes of this programme or others was found.

> ➢ There are many non-governmental organisations involved in poverty alleviation programmes.

D. Recommendations

Although these recommendations are discussed separately, the interventions that occur in any geographic area (or electoral ward) should address the multiple components of deprivation in that specific area, as identified by communities. Overall, a community development approach is recommended.

1. *Improve the quality of state-subsidised housing*
   ➢ Avoid multi-dwelling units (flats, complexes); should these be unavoidable due to cost or practicality, the design should aim to have the smallest number of units possible, adequate play areas for children, areas for social interaction of residents, sufficient privacy and a "green space" (garden). Again, where cost is a consideration, such areas could be shared e.g. a communal garden. Overcrowding in multi-dwelling units should be strongly discouraged.
   ➢ Consider shared-housing options for the disabled and elderly should they not have relatives with whom which they can reside
   ➢ Review housing quality standards and implementation of these with respect to availability of play areas, green spaces, resistance to floods/fire damage, safety, hygiene, and privacy to ensure all health-related factors have received due consideration
   ➢ Increase the capital available per housing unit through (2) and (3) below.

2. *Improve the capacity of housing applicants to make financial contributions to their homes*
   ➢ Utilise savings and micro-credit techniques such as those used by FEDUP.
   ➢ Enrol housing applicants in poverty alleviation programmes as described below.
   ➢ Train housing applicants for employment in civil service or public works

3. *Increase the housing subsidy amount per applicant*
   ➢ Investigate methods to increase the budget allocated to housing subsidies e.g. internal budget changes, increase total budget allocated to housing, utilization of housing transfer costs in wealthy areas to subsidise housing
   ➢ Private-public partnerships
   ➢ NGO-public partnerships

4. Foster community participation and support for housing delivery

➢ Involve communities in the process of housing delivery

➢ All rehousing and relocation should be voluntary and with informed consent of the housing applicant

➢ Community members should be given as much autonomy as possible in the process; transparency, regular communication, availability and accountability to residents is crucial

➢ The process of housing delivery needs to be equitable and efficient and perceived as such

➢ Every effort should be made to preserve existing social networks in rehousing projects such that groups of people move together e.g. neighbours in one setting remain neighbours in another setting

➢ Develop equitable and socially acceptable criteria for ranking in the housing waiting list such that provision is made for emergency housing; this should be done with grassroots participation and consensus

5. Expand neighbourhood renewal projects

➢ Evaluate outcomes of existing urban renewal projects

➢ Use the Multiple Deprivation Index to identify the most deprived areas in the Province and allocated resources to 'upgrade' the area or fund existing renewal projects in the area

➢ A community development approach should be adopted whereby community and public-private-NGO collaborations design and implement changes

➢ Attention should be paid to basic services, schools, retail, transport, public spaces, green spaces and parks, walkability and safety and increasing social capital (bonding and bridging social capital)

6. Decrease the demand for housing

➢ Investment and job creation in areas outside metropolitan centres

➢ Increase access to housing loans

➢ Poverty alleviation programmes as described below

7. Pilot community development micro-credit projects in the most deprived areas of the Western Cape

➢ Identify the most deprived wards using the Multiple Deprivation Index

➢ A 'community development approach' needs to be taken whereby private-public-community partnerships are set up to assist communities in identifying and addressing their problems

- ➢ Ensure ongoing training and support is given to communities and IDPs

- ➢ Bolster the development initiatives by the specific inclusion of health issues through, for example, a village health worker (who is trained and then does health promotion type work) or the establishment of community groups (e.g. a 'new mothers' group)

- ➢ For micro-credit facilities one would have to make use of criteria for selection (e.g. does the applicant have the ability and commitment to attend training; is the applicant currently in a situation of domestic violence or is there evidence of substance abuse?) and provide adequate training and guidance to ensure loan recipients are able to benefit from the provision of credit

8. *Review current employment programmes: incorporate methods of the JOBS programme as described above*

9. *Address monitoring and evaluation of poverty alleviation programmes as described by the Department of Social Development (2005)*

- ➢ Include mental health outcomes; due consideration should be given to which mental health outcomes should be evaluated and at which stage of a programme they should be evaluated. Experts in the field should be consulted in this regard.

10. *Provide free or subsidised high quality child care facilities*

- ➢ This could be linked to an economic empowerment project whereby community members could be trained in child-care

- ➢ Child care facilities should be provided immediately in the most deprived areas of the Western Cape (as defined by the Multiple Deprivation Index)

- ➢ Monitoring mechanisms should be set up to evaluate the quality of child care, and to detect children with special needs

11. *Improve access to social assistance grants*

- ➢ Provide more home-affairs offices in remote areas, provide assistance with obtaining the correct documents to apply for grants (a one-stop shop for social assistance applications should be considered)

- ➢ Expand the eligibility criteria of the Child Support Grant to cover children aged 14-18 years

- ➢ Consider a Basic Income Grant which could be conditional on entry into an employment programme e.g. in Public Works

12. Expand and evaluate existing programmes addressing adult literacy

➤ Programmes should address multiple literacies including computer literacy and health literacy

13. Expand and evaluate existing programmes addressing food Insecurity

➤ Develop and support community-based food production initiatives that simultaneously increase employment e.g. food gardens

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II. TRAUMA

Traumatic events are those that involve intense fear, horror and helplessness in response to a perceived threat to life or physical integrity (one's own or another's). This does not include situations that may be described as "traumatic" in everyday speech, such as divorce or retrenchment. Events that would qualify as traumatic stressors include violent crimes, acts of war, road accidents, and family violence (National Collaborating Centre for Mental Health, 2005).

Such events are common in South Africa, including the Western Cape Province (Edwards, 2005). While many people are resilient in their exposure to traumatic incidents (McNally, Bryant & Ehlers, 2003), such exposure can result in high rates of post-traumatic stress disorder (PTSD), depression, anxiety, substance abuse, and somatic symptoms. A recent study in a Cape Town day hospital showed that 94% of participants had experienced at least one traumatic event in their life-times, and that 19.9% had current PTSD, with depression, panic-disorder and somatisation disorder frequent co-morbidities (Carey, Stein, Zungu-Dirwayi & Seedat, 2003).

A worrying observation from this study was that none of the traumatic incidents or mental-health symptoms had been identified by day-hospital clinicians. Although there are at present no studies within the health-care services to suggest rates of PTSD among children, representative studies of children's exposure to violence in Cape Town (Seedat, van Nood, Vythilingum, Stein, & Kaminer, 2000; Seedat, Nyamai, Njenga, Vythilingum, & Stein, 2004) suggest that children show similarly high rates of PTSD to those present among adults.

Since the consequences of experiencing traumatic events can be serious and long lasting, they can complicate the treatment of other disorders, and thus result in a further burden to the healthcare system (National Collaborating Centre for Mental Health, 2005; Elhai, North, & Frueh, 2005; Katon, Zatzick, Bond, & Williams, 2006). It is therefore crucial that the health-care system recognises and treats the effects of trauma exposure on patients.

Moreover, the need to recognise the effects of trauma goes beyond the health-care system, and within the health-care system; beyond even the primary care and mental health systems. The first point of contact for many survivors of violence or of natural disasters is not the health-care system, but other agencies, such as the police or disaster-management bodies.

An individual female who has been raped, for instance, may well go first to the police, before undergoing the necessary physical examinations to collect forensic evidence, and may then have to appear in court to face the perpetrator. Each agency involved in such a case needs to be sensitive to the effects of such trauma exposure, because the inappropriate handling of survivors may exacerbate their symptoms (Herman, 2003; Campbell et al.,

1999; Stenius & Veysey, 2005) — a phenomenon often referred to as "re-traumatisation". Re-traumatisation, in other words, does not describe exposure to a new trauma, but the activation or exacerbation of mental-health symptoms related to the original trauma that brought the survivor into contact with the relevant system.

Activities that can improve health — including mental health — are: preventing disease, impairment and disability; treating diseases; and promoting health (Herrman & Jané-Llopis, 2005). In the field of trauma, ultimate prevention includes preventing exposure to traumatic incidents. People who are not exposed to traumatic incidents cannot develop post-traumatic stress disorder, and while they may be at risk for anxiety, depression or substance abuse for other reasons, they are less likely to develop these disorders. Reductions in crime and violence (including family violence) thus provide clear evidence of successful mental-health promotion outcomes. In order to further understand this level of prevention, readers of this volume are referred to the report of the Injuries Workgroup.

Health promotion in the mental health field also includes the development of adequate coping skills for dealing with stressors. Eating properly and engaging in aerobic exercise are helpful coping skills for all stressors, and there is some suggestive evidence that this includes traumatic stressors (Mitchell & Everly, 1998). Thus the interventions proposed by the Cardiovascular Disease Workgroup are also likely to affect mental health.

Since social support is equally important in recovery from exposure to traumatic stressors (Mollica et al, 2004), interventions that build social support are likely to be preventive, and the Major Infectious Diseases Workgroup includes recommendations with regard to this matter in their report. It follows that the recommendations of other workgroups are also likely to assist in either preventing exposure to traumatic stressors, or in improving the skills and the environment to assist in coping with such stressors.

This report therefore deals primarily with the two remaining areas in terms of improving mental health: treating disease; and preventing disease, impairment and disability. Recommendations will be made with regard to ensuring that post-traumatic mental-health states are adequately recognised and treated within the health system. Prevention will be dealt with in terms of the prevention or amelioration of mental-health symptoms after trauma exposure, and the prevention of re-traumatisation.

Finally, healthcare providers (and others) who, in the course of their work, hear stories of trauma exposure, may begin to suffer symptoms of PTSD secondary to their work, a phenomenon known as "secondary traumatisation". Recommendations will therefore be made for addressing secondary traumatisation, as it is an essential part of reducing the burden of mental illness among care providers.

A. Nature of the evidence

There is strong evidence from randomised controlled trials and from systematic reviews that demands evidence-based, efficacious interventions for treatment of PTSD. There is also some evidence to suggest that early intervention reduces symptoms in those at risk of developing chronic PTSD. This report also draws on guidelines for clinical practice derived from reviews of the literature and often developed by expert panels, which address the prevention and amelioration of mental health symptoms after trauma exposure. In some cases, literature reviews have been used.

Retraumatisation and secondary traumatisation have been relatively under-studied. Nervetheless, several authors have written on these topics, and the recommendations made here may be viewed as "good practice points" (National Collaborating Centre for Mental Health, 2005) on the basis of the clinical experience of experts in the field. In other words, while there may be very little hard evidence on which these recommendations are based, the lack of evidence is more about the lack of studies in the field rather than any contradictory evidence, and these recommendations are offered in the light of everyday clinical experience in the Western Cape Province and elsewhere in South Africa.

B. Evidence of interventions

Early interventions immediately after a traumatic experience can either prevent the development of later symptoms, or prevent existing symptoms from becoming chronic (National Collaborating Centre for Mental Health, 2005). Since many patients present to the health-care system with physical injuries after experiencing a traumatic event, those involved in injury care (for instance, in emergency rooms and orthopaedic and plastic-surgery clinics) should be equipped to screen patients for post-traumatic mental-health symptoms, and to make appropriate referrals as necessary (National Collaborating Centre for Mental Health, 2005; Katon et al, 2006). Furthermore, health-care providers should also be made aware that patients presenting with adverse mental-health symptoms or unexplained physical symptoms may have experienced a trauma.

Essentially, therefore, all health-care providers should be competent to assess for trauma exposure and for related adverse mental-health symptoms, and to refer appropriately. This implies the development of protocols for screening and referral, and the training of all health-care providers to be competent to use such screenings and referrals. Assessments should include a rapid appraisal of the patients' immediate safety (which is particularly important for victims of child abuse and intimate-partner violence who present immediately after an incident of abuse), and immediate interventions should include those that ensure patients' safety.

Protocols should also include guidelines for age-appropriate screening, since symptoms manifest differently in children and in adults (National Collaborating Centre for Mental Health, 2005). For specific details of what should be included in such a protocol, the reader is referred to the Clinical Guideline 26 of the UK's National Institute for Clinical Excellence (National

Collaborating Centre for Mental Health, 2005), available at http://www.nice.org.uk/CG026 NICEguideline. Currently, the evidence suggests that knowledge about evidence-based approaches to treatment requires sustained dissemination efforts by those organisations seeking to implement such approaches (Katon et al., 2006).

Early referral of patients with severe symptoms in the immediate aftermath of the traumatic incident, or whose symptoms persist beyond one to three months, has been shown to reduce the development of more chronic states of PTSD in some cases, and the evidence appears to favour this as more cost-effective than treating only established cases (Katon et al., 2006; National Collaborating Centre for Mental Health, 2005). Treating PTSD is also likely to address co-morbid mental-health problems where present, which commonly include anxiety and depression (National Collaborating Centre for Mental Health, 2005). More chronic states of PTSD increase the burden on both the mental- and physical-health systems, as patients are likely to need longer-term mental-health treatment and to experience higher rates of physical symptoms (Katon et al., 2006).

The United Kingdom's clinical guidelines for management of PTSD in primary and secondary care (National Collaborating Centre for Mental Health, 2005) make specific recommendations about care in the immediate aftermath of traumatic incidents that have implications for any health service. For individuals, an appropriate intervention immediately after injury is to enquire whether this injury was caused by a traumatic event; to assess for symptoms; and to educate patient and family about symptoms that may follow. Any patient with severe symptoms should be referred immediately for assessment with regard to possible trauma-focused psychotherapy and/or medication. Referrals should always be made to a mental-health professional who is competent in dealing with the special instance of trauma, rather than a generalist.

Patients whose symptoms are less severe should be invited to return if symptoms become more prominent, and a follow-up appointment should be scheduled after the passage of one month. It is then crucial that there be continuity of care, and that the assessment and follow-up appointment(s) be carried out by the same health-care practitioner. Such a step makes it possible to follow up patients who may have missed an appointment (which in itself may be an indication of increasing symptom severity) and further avoids re-traumatising clients by inadvertently forcing them to tell their trauma stories many times over to different people. Thus the health-care system should include sufficient mental-health professionals who are competent in trauma-focused psychotherapy, and ought to make provision for the continuity of care with regard to assessments and follow-up appointments.

Early intervention is likely to reduce the development of more chronic mental-health symptoms, and is also likely to be more treatable with brief psychological interventions (five sessions within the first month after the event; 8-12 sessions where symptoms occur within the first three months) offered on an out-patient basis (National Collaborating Centre for Mental Health, 2005), thus reducing the overall burden on the health-care system. Early detection and treatment are thus also cost-effective.

Single-session debriefings should NOT be offered as preventive interventions, as studies show that although patients often appreciate them, they do not lead to any improvement in positive mental-health outcomes and may, in fact, lead to a worsening of symptoms (National Collaborating Centre for Mental Health, 2005; McNally et al, 2003; Gist & Devilly, 2002; van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002; Rose & Bisson, 1998). Some evidence has been found, however, that critical-incident debriefing (a specific form of debriefing) may reduce trauma symptoms when offered in the context of Critical Incident Stress Management (CISM) (Phipps & Byrne, 2003). CISM includes three components:

> ➤ pre-trauma stress innoculation training;

> ➤ debriefing; and

> ➤ the assessment of individuals one month after treatment, with referral for treatment if necessary

(Mitchell & Everly, 1997; Richards, 2001).

This approach is suitable for groups who usually work together and who regularly deal with critical incidents, such as emergency services.

Similar programmes have been shown to produce similar results in reducing symptoms among staff of a psychiatric facility who had been assaulted by patients (and, reciprocally, in the number of assaults by patients) (Flannery, Everly, & Eyler, 2000), as well as in reducing not PTSD symptoms but alcohol abuse among soldiers returning from peace-keeping duties (Deahl et al., 2000).

The literature thus suggests that programmes using Critical Incident Stress Management techniques are likely to be efficacious in groups such as emergency services, rescue teams, the staff of psychiatric hospitals, police services, and among soldiers. Since this is a relatively new area in the literature, evaluation should be built into the design of any such new programmes, to ensure that they do in fact reduce symptoms.

Disaster management offers another arena for preventing the development of long-term post-traumatic mental health problems. Disaster plans should include provision for a fully co-ordinated psycho-social response to the disaster, including provision for immediate practical help, supporting the affected communities in caring for those involved, and the provision of specialist, evidence-based assessment and treatment of adverse mental-health symptoms (National Collaborating Centre for Mental Health, 2005; National Institute of Mental Health, 2002).

Details of what should be included in such a plan are available from The Sphere Project, a project of humanitarian NGOs and the Red Cross and Red Crescent Societies, which has designed a set of minimum standards for disaster response.

This is available at http://www.sphereproject.org/handbook/index.htm.

Re-traumatisation

There is very little data on interventions to reduce re-traumatisation. The area that has been most studied is that of women who have been raped, and authors in this area suggest that it is important to continue efforts to educate those who deal with rape survivors about post-traumatic reactions and how to handle them during such necessary procedures as forensic examinations (Campbell et al, 1999; Stenius et al, 2005). There is every reason to expect that the same principles will apply to those who deal with survivors of other forms of traumatic incidents, such as child-abuse survivors. Even in mental-health and substance-abuse treatment systems, where the majority of patients have some form of trauma exposure (Elliott, Bjelejac, Fallot, Markoff & Reed, 2005), it is critical that the provision of services includes the ability to assess and treat trauma-related issues alongside the treatment of other problems (Elliott et al, 2005; Harris & Fallot, 2001). Where service delivery is not trauma-informed, it may be re-traumatising or less than optimally effective (Harris et al., 2001).

Treatment

Currently there is clear evidence that both trauma-focused Cognitive-Behavioural Therapy and eye-movement desensitisation and reprocessing are effective for the treatment of PTSD in adults, and Cognitive-Behavioural Therapy for treatment of PTSD in children (National Collaborating Centre for Mental Health, 2005). These treatments are normally provided on an outpatient basis, and should be provided weekly by the same person. Again, these treatment guidelines imply that the healthcare system has within it

sufficient mental health practitioners who are competent to deliver one of these two modalities; and to ensure continuity of care.

There is no evidence about the effectiveness of other psychotherapy modalities, such as brief psychodynamic approaches which may be more widely available in health systems, when treating patients who have experienced traumatic incidents. The lack of evidence should not be read as implying that they are ineffective; they simply have not been investigated in the same way that trauma-focused cognitive-behavioural therapy and eye movement desensitisation and reprocessing have been investigated. If these approaches are used, they should ideally be evaluated.

As a front-line treatment for trauma (i.e., immediately after the event), there is emerging evidence that propanolol may prevent the emergence of symptoms, and this may be considered if there are no contra-indications (Baldwin et al., 2005). It should also be noted that other guidelines oppose the use of medication in the immediate aftermath of trauma exposure (National Collaborating Centre for Mental Health, 2005). Medication may be helpful in chronic PTSD (National Collaborating Centre for Mental Health, 2005; Baldwin et al., 2005), and the best evidence appears to be for the selective serotonin reuptake inhibitors; but it should also be noted that the relative efficacy of pharmacological and psychological treatments (or their combination) has not been established (Baldwin et al., 2005; Stein, Ipser, & Seedat, 2006). In more complicated cases, where initial treatment fails, or where the PTSD is comorbid with severe depression, antidepressants should be considered, and consideration should be given to augmenting these with antipsychotic medication if there is no response (Baldwin et al., 2005). Decisions about medication are complex and are best made by psychiatrists.

Conclusion

➢ Eye-movement desensitisation and reprocessing and cognitive behavioural psychotherapies are effective in treating post-traumatic mental health problems.

➢ Medication (other than possibly propanolol) should not be prescribed in the immediate aftermath of a traumatic event.

➢ Patients with post-traumatic mental health symptoms should be referred to a mental health specialist for assessment.

Secondary traumatisation

Those who work with trauma victims are vulnerable to secondary traumatic stress and who are experiencing such stress are more likely to make poor professional judgements than those who are not so affected (Collins and Long, 2003). Although there has been relatively little research into this area, the following interventions were identified in a review of the literature (Collins et al, 2003) as protecting against the development of secondary traumatisation:

- Self-awareness training should be provided during education and training of healthcare providers;
- Clinical supervision should be a routine part of providers' working lives, and should promote both personal and professional development;
- Access to confidential counselling services should be made available through the workplace;
- A workplace culture should be promoted that values staff and their care, so that it is seen as sign of strength to access these services.

Much of the literature on self-care focuses on mental health professionals. However, other professions which deal with trauma survivors, such as the police, are also vulnerable to secondary traumatic stress (McCarroll, Blank, & Hill, 2007; Hafemeister, 1993). These professions, too, should receive appropriate training and support.

> **Conclusion**
>
> Those who work with trauma survivors are vulnerable to secondary traumatic stress. Training in self-care and other support structures should be developed for those who work with trauma survivors, and evaluated in terms of their ability to prevent the development of post-traumatic symptoms.

C. Existing interventions

A recent scoping exercise (Draper and Corrigall, 2006) and an interview with an expert panel identified the following interventions in the Western Cape:

- Child Welfare and **RAPCAN** offer programmes for the prevention of child maltreatment.

- Child Welfare and DSD social workers are also able to remove children from homes where they are at risk of maltreatment.

- Childline and **Safeline** provide services to abused children.

- Mental health services within the Department of Health offer both counselling and prescription of medication, where there are competent providers.

- The **Trauma Centre for Survivors of Violence and Torture** offers brief-term counselling to trauma survivors (up to 6 sessions).

- The Trauma Centre for Survivors of Violence and Torture also has a contract with the City of Cape Town to provide mental health services in the event of large emergencies and disasters.

- Training for "frontline workers" – those who deal with trauma survivors – is provided by The Trauma Centre for Survivors of Violence and Torture, and by **Rape Crisis**, **Cape Town**.

- The Trauma Centre also trains and supervises volunteer counsellors who staff "comfort rooms" in police stations. **Rape Crisis, Helderberg** and **PATCH** in Somerset West offer similar services.

- ➢ Rape Crisis Cape Town provides brief-term counselling (6-12 sessions) for rape victims.

- ➢ **Thutuzelo Centres** provide sexual assault services for those aged 14 and over.

- ➢ **Mosaic Training, Service and Healing Centre for Women** provides counselling services to victims of domestic violence.

- ➢ Training and support programmes for lay trauma counsellors (competent to offer early assessment and brief interventions – up to 3 sessions) are offered by The Trauma Centre for Survivors of Violence and Torture and by the **Network on Violence Against Women**.

- ➢ **FAMSA** provides post-trauma intervention services.

- ➢ DoH Human Resources and the SAPS offer a Staff Health and Wellness Programme.

- ➢ **Empilweni**, an NGO in Khayelitsha, provides mental health services (including trauma services) to children (under 18's).

- ➢ **Bathuthuzele**, a clinic of the MRC Unit on Anxiety Disorders, provides evaluation services for traumatised adolescents.

Despite their best intentions, however, it is unlikely that these sources are sufficient to address the needs for treatment. Although a more comprehensive needs assessment and gap analysis should be conducted in order to provide the necessary detail, several gaps may be identified immediately:

- ➢ Most organisations offering some form of trauma counselling provide only very brief-term interventions, while many trauma survivors will need longer-term work. Despite the important role of medication, most of these NGOs do not get help from doctors or nurses.

- ➢ Similarly, although some organisations provide training for frontline workers, this is unlikely to have included all their employees; nor are all organisations providing this.

- ➢ While employees of the Department of Health and of SAPS have access to confidential counselling, it is not clear whether all employees know of this programme, have access to it, and see it as a strength to access it when necessary.

- ➢ The available resources are, for the most part, limited to Cape Town, leaving residents of rural areas vulnerable to unrecognised and untreated post-traumatic symptoms.

- ➢ Finally, disaster management plans for the Province should be reviewed to see whether they meet the minimum standards laid down by The Sphere Project.

> ➢ Non-Governmental Organisations currently fill many of the gaps in service provision but have very limited coverage of the population, particularly in rural areas, and very limited access to mental health professionals.
>
> ➢ There are very few provisions for longer-term trauma therapy
>
> ➢ There is insufficient training of people dealing with trauma victims e.g. in courts.
>
> ➢ The quality of psychological services for frontline workers (health, police) needs to be evaluated.
>
> ➢ Disaster management plans should incorporate psychosocial elements.

D. Recommendations

1. Health department interventions

1.1 Health-systems issues

a) The healthcare system should employ sufficient mental health professionals (psychologists, psychiatrists, psychiatric nurses, clinical social workers) who are competent to deal with patients who have been exposed to traumatic situations. Most mental health care professionals employed by the province deal with inpatient psychotic disorders; there is much less emphasis on outpatients with mood anxiety disorders (such as PTSD). Attention should thus be given to staffing outpatient clinics with mental health professionals who are competent to deal with trauma.

b) Continuity of care should be assured for trauma survivors.

c) Protocols should be developed for use throughout the healthcare system for screening for exposure to traumatic incidents, assessment of related mental health symptoms, and appropriate management (follow-up within one month and/or referral).

d) This protocol should include non-health referral resources that provide for patient safety, such as organisations that provide shelter for survivors of domestic violence.

e) All healthcare providers who have patient contact should be trained in the use of this protocol, using evidence-based dissemination methods (Katon et al., 2006).

f) It is critical that a sufficient treatment system be in place before any assessment protocol is implemented: patients who have been assessed must have access to an adequate referral system.

g) In terms of preventing secondary traumatisation among its own staff, the healthcare system should institute routine clinical supervision for all mental health professionals and ensure that access to the employee assistance programme is facilitated.

h) Counsellors employed by the employee assistance programme should be competent to deal with secondary traumatisation.

1.2. Mental health services

a) It is critical that mental health professionals are employed who are competent to deal with children specifically, as well as adults, since children have different needs from adults.

b) Specific training for mental health professionals in trauma-focused psychotherapy (either trauma-focused cognitive-behavioural therapy or eye movement desensitisation and reprocessing) should be provided.

c) Medication for which there is evidence for efficacy in the treatment of post-traumatic mental health symptoms, should be available in the formulary. There should be a sufficient number of providers who are competent to assess whether a patient needs medication, and to prescribe it.

d) Evaluate and support non-governmental organisations currently filling the gap in trauma services e.g. Child Welfare, Rape Crisis, FAMSA, Lifeline

2. Interventions outside the health department

a) Attention should be paid to developing resources outside the healthcare system that are nonetheless essential to the safety of victims of traumatic incidents. Key among these are shelters for victims of domestic violence, emergency placement options for the elderly, and an appropriate system for emergency placement of abused children.

b) Critical incident stress management programmes should be developed and instituted for occupational groups that are at high risk for exposure to critical incidents, such as police, emergency services, staff of psychiatric institutions and soldiers. All such programmes should be evaluated for effectiveness.

c) Single session debriefings should NOT be offered to any person or group who has survived a traumatic incident.

d) Occupational groups who are likely to be in contact with trauma survivors (such as police, lawyers, district surgeons) should be trained to understand and recognise the mental health effects of trauma exposure, and to handle their encounters sensitively so that survivors are not retraumatised from the encounter. The effectiveness of such trainings should be evaluated. Organisations should also develop and institutionalise protocols for appropriate treatment of trauma survivors.

e) Training of mental health professionals (clinical social workers, psychiatric nurses, clinical psychologists and psychiatrists) should include training in treating post-traumatic states.

f) Having said that, however, treating trauma adequately is complex and beyond the scope of most basic training programmes in psychiatry, psychology or clinical social work. Post-graduate training programmes (such as an M.Phil. in trauma studies) should be developed.

g) Any disaster plans for the Western Cape Province (or any organisation in the Province) should include a detailed plan for a psychosocial response that meets the minimum standards of The Sphere Project. These plans should be tested in mock-disaster trainings, and should be evaluated after any disaster has occurred.

All systems changes (such as the introduction of protocols) should under go a process evaluation (i.e., to assess whether they were implemented, and were implemented as planned) and should be monitored on an ongoing basis (i.e., to assess whether change is sustained, and whether the system changes are achieving the desired ends). For instance, a monitoring system could include whether a protocol has been developed for assessing patients for post-traumatic trauma symptoms; how many staff members have been trained to use it; and how many patients have been referred for trauma-focused psychotherapy. The first two indicators monitor the development and rolling-out of such a protocol; and the second can be used to assess whether it is in fact being implemented (since a study indicates that 20% of patients are likely to have post-traumatic mental health symptoms, referrals that are well below or above this may indicate that the protocol is not being implemented or that it is not sufficiently focused on post-traumatic mental health states).
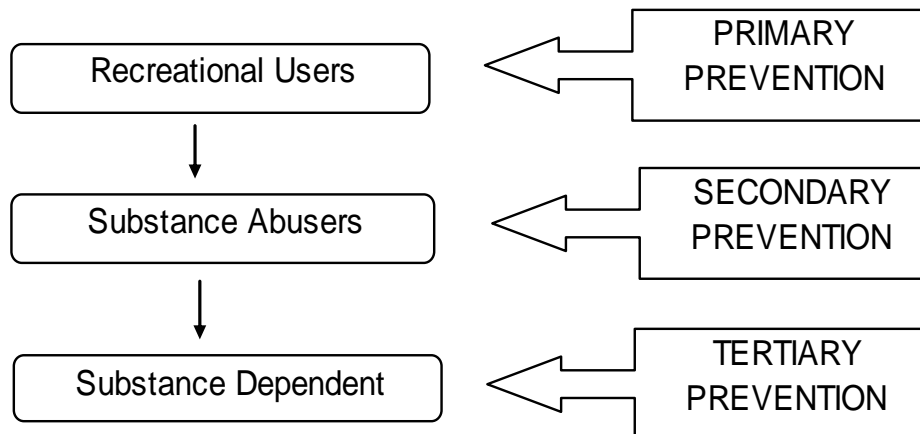
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In the literature, three levels of substance-abuse prevention are recognised, each of which deal with the correspondingly different types of abusers, as shown in Figure 9 below.

Figure 9: The three levels of substance-abuse prevention

Primary prevention attempts to prevent the initiation of psycho-active substances and to delay the age of onset of substance abuse. Secondary prevention is concerned with the early stages of substance abuse, and its objective is to prevent the progress of substance abuse to dependence (addiction), while also to minimise the degree of harm caused by the substance to the individual. Tertiary prevention, also termed "rehabilitation" or "relapse prevention", seeks to end dependence and minimise the sequelae resulting from substance dependence by enabling the individual to attain improved levels of functioning and health (Coombs and Zeidonis, 1995; WHO, 2000).

"Treatment" refers to an individual-level intervention, which can form part of secondary or tertiary prevention and focus on the reduction of drug use among those who have already established substance abuser or dependence behaviour patterns (Coombs and Zeidonis, 1995). Treatment also plays a valuable role in preventing the development of other mental-illness sequelae associated with substance abuse, such as depression and suicide (Babor, Caetano et al, 2003). Furthermore, treating substance dependence in a parent may prevent the development of substance dependence in their offspring.

A. Legality issues and enforcement

Enforcement is intended to control the distribution of substances, either by deterring curious or experimental users, or by making it more difficult for regular users to access substances. This form of prevention is mediated by the legal status of substances at Government level, and frequently is implemented through law enforcement.

The legal regulation of substances has led to three major persisting debates with regard to the shaping of policy over time: prohibition, legalisation, and harm reduction (Cheung, 2000). Over the past century, alcohol policy has continued to be shaped in response to the growing respect for people's right to drink in moderation (Babor, Caetano et al, 2003). Despite this change, regulation and law enforcement has continued to play a role in shaping behaviour change, over and above affecting the supply and demand of substances. The legal status of the substance thus plays a crucial, if controversial role.

Concerning illicit substances, for example, policing and law enforcement serve to raise drug prices and the risks incurred by users. In terms of licit substances, such as alcohol and cigarettes, the permissibility of advertising and marketing strategies can overshadow health-promotion and prevention efforts (Coombs and Zeidonis, 1995).

B. Nature of the Evidence

Although a large body of evidence exists on interventions which target substance abuse prevention, it is important to note that the overwhelming majority of research comes from developed countries, where contexts are quite different. Furthermore, because the use of alcohol lends itself to investigation in ways that illicit substances do not, much evidence exists on the effectiveness of interventions for alcohol abuse. For other substances, however, owing to their legal status or novelty, the evidence is more limited.

C. Evidence of interventions

Literature on alcohol policy and prevention strategies emphasises the association between increased consumption of alcohol and increased incidence of alcohol-related problems in populations. Hence the broad objectives of strategy focus on reducing consumption and limiting the availability of alcohol through various means (Hawks, Scott et al. 2002; Babor, Caetano et al. 2003).

Although a similar approach would be suitable for other substances of abuse, including "tik' abuse", consumption reduction initiatives for illicit substances tend to remain mired in controversy.

The following strategies were identified from the literature:

1. Regulation of alcohol promotion through the media;
2. Community-based programmes;
3. Education and school-based programmes;
4. Decreased (economic or physical) availability of alcohol;
5. Law enforcement against drunk driving;
6. Mental health services for substance disorders; and
7. Other.

1. Regulation of alcohol promotion through the media

Alcohol products are promoted through an "integrated mix of strategies" (Babor, Caetano et al. 2003:173), notably: television, print and radio media, the internet and point of sale promotions. Alcohol brands are associated with particular consumer identities, lifestyles and sport, and repeated exposure to advertising messages has been shown to cultivate a user culture. Not only do individuals respond cognitively to advertising messages, but their perceptions about the level of consumption by others may also be influenced (Babor, Caetano et al. 2003). Hawks et al (2002:27) refer to several studies, which show that,

> The advertising of alcohol products, particularly beer, and especially if associated with sporting prowess has been found to influence the perceptions and future drinking intentions of under age viewers, particularly males.

Self–regulation in the alcohol industry has been documented as poor, because it is not self-serving. There is a particular concern for developing contexts, where alcohol and tobacco continue to be widely marketed, and consumption levels are increasing (Hawks, Scott et al. 2002).

Two major strategies are used in policy interventions to restrict alcohol promotion through the media. First, restrictions may be placed on advertising, and second, mass media campaigns in the form of warning labels and advertising may be implemented.

1.1 Evidence on the efficacy of advertising regulations

➢ Advertising regulations are hotly contested. They constitute a mix of industry-led self-regulation and legislative regulation, which impedes the establishment of more restrictive legislation, and evidence thereon (Babor, Caetano et al, 2003).

➢ Despite these unsuccessful efforts, it has been shown that placing broadcasting bans on alcohol advertising is associated with decreased per capita consumption (Saffer in Hawks et al, 2002).

➢ Saffer (in Babor et al, 2003:182) state:

> To be effective, [broadcasting] bans should be sufficiently inclusive to reduce opportunities for substitution, although displacement and increased saturation effects in other advertising media would reduce the effectiveness of these bans.

1.2 Evidence on the efficacy of media campaigns

➢ Media campaigns commonly take the form of public-service announcements and warning labels, but it is debatable as to whether media campaigns are truly cost-effective.

➢ It is difficult to ascertain pre-campaign measures, and hence the effective outcomes: Few control groups have _not_ been exposed to the mass media.

> ➢ Media campaigns are shown to be more effective when used in conjunction with community action.

> ➢ Media campaigns have been shown to be effective in raising levels of awareness in terms of substance use, "and lending support to policy initiatives in this area" (Hawks, Scott et al, 2002:27).

> ➢ Their role in behavioural change is less certain. Hawks et al (2002:27) suggest that,

>> Changes in individual behaviour would seem to require _both_ the provision of accurate information _and_ the reduction of misinformation.

> It would seem, for example, that the continued advertising of alcohol and tobacco seems to nullify the efforts of media campaigns to prevent the use or abuse of such substances.

> ➢ Media campaigns are best when used in broader systemic environments that advocate health-promotion principles (Hawks et al, 2002).

> ➢ The World Health Organisation, (in Hawks et al, 2002:27) states,

>> The use of scare tactics has only shown to be effective when applied with audiences having a low awareness. With high-awareness audiences, modelling and demonstrating beliefs of non-use have been found to be more effective, as has challenging normative beliefs about the extent of use in a particular area or among a particular population.

> ➢ Evidence on the efficacy of health warnings on billboards and packaging is not easily measurable, since it is not possible to separate their effect from other environmental initiatives (Hawks, Scott et al. 2002). Evidence suggests that, although exposure to warning labels does not produce change in consumption behaviour per se, they have been shown to have an effect on other variables, such as a willingness to intervene in hazardous drinking situations (Babor et al, 2003).

Conclusion
> ➢ Restrictions or bans on advertising have been shown to be effective in decreasing the consumption of alcohol at a population level. Mass media campaigns have not shown to be effective in the absence of other interventions.

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2. Community-based programmes

Interventions concerning community response typically concern the involvement of police, health and justice systems, as well as community leaders and Community-Based Organisations (CBOs), known as a "systematic" approach.

➢ Authors note that the success of such programmes is contingent on ownership, choice of community, and sustainable linkages between key players.

➢ Evidence is problematic to appraise due to the multiplicative nature of the interventions. Furthermore, interventions that are popular in the community, may not be feasible/ within their remit, such as changing liquor licensing laws.

<div align="center">(Hawks et al, 2002).</div>

The ***Communities that Care (CTC)*** programme has been implemented in several hundred communities in the USA, Netherlands, Scotland, Wales and Australia. In the CTC programme, communities use local data on risk and protective factors to develop interventions that reduce community violence and aggression. Before-and-after studies have demonstrated improvements in youth cognitive abilities, parental skills, community relations, and decreases in behavioural problems, assault charges, drug offences and burglaries (Jané-Lopis, 2005). Similar interventions have been successfully implemented in India and China where community interventions reduced alcohol consumption, drug abuse and domestic violence (Patel et al 2005).

Conclusion
➢ The efficacy of community-based programmes is contingent on a range of other variables and needs to be part of an integrated approach. Where implemented in this manner, community-development interventions have successfully reduced alcohol and drug abuse.

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3. Education and school-based programmes

Evidence on early intervention approaches, based on the provision of information and education on substance abuse, has shown that these factors may impact on knowledge of substances, but fail to impact on drug and alcohol use (Botvin, 2000; Room, Babor et al, 2005; Babor, Caetano et al, 2003). Introducing long-term programmes at primary school level may increase the effectiveness of such programmes, if the following are included as approaches (Parry, 2005):

➢ increasing parental and community support;

➢ incorporating peer-led and life skills training; and

➢ Incorporating resistance training within a culturally relevant context.

Two prevention models, formulated from science-based approaches, are used currently in school-based prevention, particularly in relation to the prevention of the use of "gateway" substances, such as: cigarettes, alcohol and marijuana. The aim of such programmes is to change beliefs, attitudes and behaviours surrounding alcohol consumption in youth, and to build self-esteem and social skills (Babor, Caetano et al, 2003).

3.1. Social-influence model

  ➢ Emphasises social and psychological factors involved in the onset of drug abuse, such as the role of media, and peer relationships.

  ➢ Uses psychological innoculation (gradually increasing exposure to pro-drug messages which are intended as a means of building up resistance to more powerful substance messages); normative education (adjusting perceptions concerning the prevalence of substance use among peers); and resistance skills training (the recognition of high-risk situations, the influence of media, and training in refusal).

  ➢ Although they may be shown to produce a reduction in incident cases of substance abuse, these effects still decay over time and the need remains for sustained intervention, or "booster" sessions.

3.2. Competence-enhancement model

  ➢ Frequently combined with the social influence model, this model aims to teach personal and social skills. Commonly known as Life Skills Training (LST).

  ➢ Again, although it has been shown to be effective in reducing the incidence of substance abuse in school-going children, continuous intervention and booster sessions are required.

The limitations of most studies include their conduct among white youth in the United States and it follows, therefore, that worldwide extrapolation from such studies is contentious. Although more recent data drawn from the United States data has shown LST to be effective in other populations and socio-economic strata (p. 7), cultural modification to the intervention is recommended (Botvinn, 2000).

Also noteworthy are findings on what methods of prevention are not effective. In schools, most initiatives only cover one aspect of substance abuse, and are disseminated by means of "once-off" school talks. As discussed above, models based on the dissemination of information about substances, plus the provision of "healthy" alternatives for youth, have little impact on the prevention of initial substance abuse (Botvin 2000). Hence, Parry contends that this model, and the use of "scare tactics" are outdated (Parry 2005).

Conclusion
  ➢ There is no evidence to support school-based *educational* interventions, however school-based interventions using the social influence and competence enhancement models have demonstrated efficacy in reducing alcohol and drug abuse. Initiatives that begin in primary school may have greater success in preventing substance use disorders.

4. Decreased (economic or physical) availability of alcohol

Increasing the availability of alcohol — through adjusting legal age limits, price, and hours of sale, to name a few examples — has been shown to increase the prevalence of problem drinking, chronic disease, motor vehicle accidents, and violence (Hawks, Scott et al. 2002). Illicit drugs are obviously

less amenable to these types of government interventions and, in this instance, enforcing existing legislation would be appropriate.

The following strategies aim to decrease the availability of alcohol either physically or economically.

4.1. Changing the legal purchasing age

Babor et al (in Parry, 2005) note evidence which suggests that this intervention does not eliminate youth drinking as such, but only serves to reduce among youth drunk driving, night-time single-vehicle accidents, and fatal motor accidents (Babor et al, in Parry, 2005). The efficacy of such interventions is further linked to the degree of enforcement. In order rather to prevent these outcomes, Parry (2005) recommends raising the legal purchasing age to 21 years of age. Given the low enforcement of the current legal purchasing age, this intervention seems premature and efforts would be better spent on enforcing existing legislation.

4.2. Instituting restrictive trading hours, and days of sale

Akthough reducing the hours and days of sale has been shown to reduce "alcohol consumption and problem levels", this strategy would not work effectively in South Africa without the regulation of all currently un-regulated alcohol outlets (Parry, 2005:22).

4.3. Instituting restrictions on outlet density

Increasing the opportunity costs associated with obtaining alcohol, by restricting outlet density has been shown to affect consumption levels and alcohol-related problems. In the South African setting, Parry (2005) suggests the licensing of all currently unlicensed outlets, and the offering of incentives to liquor outlets to move, in order to change outlet density (Parry, 2005).

4.4. Adoption of responsible selling practices

Responsible selling practices would include, for example: legal prohibitions on selling alcohol to intoxicated people, serving food with alcohol, and introducing server liability. According to Parry (2005), however, this would only likely work in the formal market in the medium to long term.

4.5. Taxation increases on alcohol

Motivating factors for increasing taxes on alcohol include the balancing of the external costs of consumption, as well as to provide resources for the development of programmes which address the burden of alcohol abuse. Younger drinkers are responsive to price increases, while there is evidence to suggest that heavy drinkers may also be affected by increased prices. In

Increased alcohol taxation has been shown to be associated further with a decreased incidence in motor-vehicle accident fatalities, crime, and cirrhosis mortality, occupational injury, and school drop-out rate. Yet taxation strategies can lead to illegal alcohol production and the growth of smuggling syndicates. Although alcohol taxation strategies are present South Africa, their extent is below international averages (Parry 2005).

> **Conclusion**
> ➢ Reducing the availability of alcohol through restricting trading hours and days of sale, instituting restrictions on outlet density and increasing the cost of alcohol have been shown to be effective strategies in reducing alcohol use. Enforcing laws on the legal purchasing age of alcohol would also be important. The success of these interventions would hinge on the degree to which licensing and other policies are enforced.

5. Law enforcement against driving under the influence of psycho-active drugs

These interventions focus largely on alcohol but many are also applicable to illicit drugs. This intervention aims to reduce the incidence of drunken driving, or at least to reduce the incidence of those who drink over the legal limit.

➢ Enforcement has been shown to be effective in reducing drunken driving, particularly correlated with the degree of rigor to which the law is applied.

➢ Random breathalyser tests (RBTs), which assess blood-alcohol content levels have spurred industry-initiated interventions, such as low-alcohol beer, and the "skipper" programme, where one person is designated the non-drinking driver at social events. Hawks, Scott et al (2002:15) note that,

> While effective in reducing road traffic accidents these measures, together with the initiatives taken by the alcohol industry to circumvent them, such as the skipper programme, have not been shown to influence consumption in general or even risky consumption in other environments than the drinking environment.

Law enforcement may have a positive effect in terms of lowering the incidence of drunken driving, but has little effect on the prevention of alcohol abuse. A criticism of the use of law enforcement to lower the consumption of substances in general, is that outcomes do not result in public health benefits. Examples include:

➢ sobriety checkpoints;

➢ lowering blood-alcohol limits; and

➢ administrative license suspension.

> **Conclusion**
> ➢ Law enforcement may have a positive effect in terms of lowering the incidence of drunken driving, but has little effect on the prevention of alcohol abuse.

A review of the literature identified more than 40 treatment modalities for substance abuse, including: motivational counselling; family therapy; Cognitive-Behavioural Therapy (CBT) and 12-Step interventions, to name a few (Babor, Caetano et al. 2003). Of these, three broad intervention strategies have been identified as operational in health services, and have been evaluated in terms of their effectiveness (Babor et al. 2003):

1. Interventions targeting non-dependent, high-risk consumers;

2. Formal treatment interventions for abusers and addicts; and

3. Interventions based on mutual aid.

6.1. Interventions targeting non-dependent high-risk consumers

Brief motivational interviewing for hazardous drinking is commonly characterised by up to three education and counselling sessions. The aim is to provide early intervention, usually for "at-risk" drinkers (Parry, 2005). While this intervention focuses on harm reduction, the main objective is to motivate for moderate drinking habits, rather than for abstinence (Babor, Caetano et al, 2003). Brief interventions such as these are effective in so far as they provide optimal conditions for motivational change (Miller and Rollnick, 1991).

A meta-analysis of studies looking at problem behaviour, including substance addiction or drug problems, found motivational interviewing to be effective across alcohol, drug, diet and exercise problems with follow-up for as long a four years (Burke, Arkiwitz et al. 2003) . Early studies, as well as more recent randomised controlled trials, have shown this type of intervention to be effective, yet not consistent across studies. A major limitation lies in imple-mentation, owing to a dearth of provider training, a lack of resources with regard to screening and the brevity of interventions in the public health sector (Babor, Caetano et al. 2003; Parry 2005).

6.2. Formal treatment interventions for abusers and addicts

Babor et al note that, "In general, when patients enter treatment, exposure to any treatment is associated with significant reductions in substance use and related problems, regardless of the type of intervention used" (Babor, Caetano et al. 2003:213). Problems such as scarcity of specialized services and lack of access to treatment, as well as the documented reluctance of providers to interrogate their patients about substance consumption habits tend to hinder advancement of treatment strategy (Babor, Caetano et al. 2003).

> ➢ Cognitive Behaviour Therapies (CBT), such as social skills training, have been shown to be effective when including assertiveness training in the treatment of alcohol-related problems. CBT which incorporates coping skills has been shown to be effective in modifying the behaviour of less dependent individuals, while relaxation training has been shown to be effective in those whose substance abuse stems from anxiety (Edwards, Marshall et al. 2003).

- Marital and family therapy has been shown to be effective with short-term outcomes, by addressing the sequelae experienced by spouses and other family members related to a substance abuser (Edwards et al, 2003).

- Evidence does not suggest that in-patient treatment is more effective than out-patient treatment, except in circumstances where an individual is very resistant to intervention, displays co-morbidity, has small financial means, or is from an environment which does not promote recovery (Finney et al in Babor et al, 2003).

- The literature notes that, while there is evidence to support the notion that different treatments work for different individuals, it is not easy to rate the effectiveness of each treatment unequivocally (Edwards et al, 2003).

- A systematic review of psycho-therapeutic interventions conducted in out-patient settings found that long-term, individual Cognitive Behaviour Therapy was more effective in the treatment of cannabis abuse than brief, individual motivational interviewing. The authors noted, however, that the studies included for review demonstrated that cannabis abuse and dependence "is not easily treated by psychotherapies in out-patient settings" (Denis, Lavie et al. 2006:4).

- Medication may be an important adjunctive treatment for substance dependence in some instances.

- Given the high co-morbidity between substance abuse, substance dependence, and other mental disorders, all treatment services for substance abuse should screen for other mental disorders.

6.3. Interventions based on mutual aid

Mutual-aid interventions are considered as alternatives to specialised treatment services, and are considered a significant resource for problem drinkers.

- Alcoholics Anonymous (AA) was founded in the U.S in 1935, and is an international organisation which offers support modelled on mutual-aid groups and abstinence. It is one of many 12-Step facilitations (Ferri et al, 2006).

- Evidence on the efficacy of AA is not definitive, but more suggestive in nature, "being based upon popularity, personal testimony, and perceived benefit, rather than scientific proof" (Edwards in Edwards et al, 2003).

- A recent Cochrane Review found that, "12-step and AA programmes for alcohol problems are promoted worldwide. Yet experimental studies have on the whole failed to demonstrate their effectiveness in reducing alcohol dependence or drinking problems when compared with other interventions" (Ferri, Amato et al. 2006:10).

> **Conclusions**
> - ➢ Brief interventions delivered under the right contextual conditions are effective in problem drinkers.
> - ➢ There is a wealth of evidence on the effectiveness of a range of formal treatments for substance abuse, but no empirical evidence for the efficacy of mutual support interventions such as Alcoholics Anonymous.
> - ➢ All treatment programmes should screen clients for other mental disorders. Treatment of co-morbid mental illnesses in substance abusers may be crucial.

7. Other

Recent studies in South Africa have highlighted several socio-environmental determinants of substance abuse including: parenting styles, parental drug use, exposure to public drunkenness, and experience of violence (Parry et al, 2004; Brook et al, 2006). Although these findings suggest that interventions in these areas may have a role to play in prevention, supportive empirical data is lacking.

> **Conclusion**
> - ➢ Studies suggest that a range of other factors may be useful for preventive interventions, such as: improving parenting skills, decreasing parental substance abuse, and violence and public drunkenness prevention. Empirical data on this is currently lacking.

C. Existing interventions

An inventory was taken in June 2006 of all the major substance-abuse prevention programmes implemented by the Provincial Departments of Social Development, Health, and Community Safety, and these programmes are presented in Tables 10 and 11 on pages 84 and 95 below. What is evident from this information is the relatively small numbers of people reached by these interventions, the low geographic coverage of interventions, and the lack of outcomes with which to evaluate these interventions.

In January 2007, the National Minister of Social Development published the Prevention of and Treatment for Substance Abuse Draft Bill. One of the aims of this Bill is —

> To create mechanisms for the combating of substance abuse through prevention, early intervention, treatment and re-integration programmes.
>
> <div align="center">(Skweyiya, 2007:2).</div>

Chapter 3 of the Bill describes strategies for the prevention of substance abuse and it is apparent that the focus is on the family environment with no

emphasis on broader environmental factors. Although this is covered by the Liquor Act (2003), the policies should speak to each other to ensure an integrated intergovernmental response. Other strategies for prevention mentioned in the Bill include the need to address community values, perceptions and beliefs about substance abuse, and the need to foster personal and social skills in order to increase people's capacity to make healthy choices (Skweyiya, 2007). The Bill does not contain details of any particular intervention.

The Liquor Act (2003) regulates the supply of liquor through licensing, permits and law-enforcement procedures. As it stands, the Liquor Act is not well placed to reduce the supply of alcohol for consumption. Areas which could be improved include:

> Criteria for disqualification;

> Education and training legislation;

> Trading hour regulations (currently 08:00-20:00 or 08:00-04:00);

> Employee regulations;

> Licence Renewal procedures; and

> The advertising of alcohol products.

Proper enforcement is another problem that must be contended with.

In terms of treatment services, demand for treatment services, especially by increasing numbers of youth, outweighs supply (Parry, 2005). Access to services is hampered by unequal geographical distribution and fragmented administration through both the welfare and health sectors, which has led to a lack of integration of mental health and substance abuse services (Parry, 2005). In particular, access to services by black South Africans is hampered by logistical, cultural and knowledge-related barriers (Myers and Parry, 2005).

The Prevention of and Treatment for Substance Abuse Draft Bill recognises these difficulties and includes in its guiding principles for provision of services that services should be culturally appropriate (Skweyiya, 2007). Despite the massive impact of substance abuse, there is only one addictionology sub-specialist in the tertiary services of the Western Cape Province. Addiction medicine needs to established at the tertiary level and driven by addictionologist input at the secondary and primary care levels.

The lack of after-care services is highlighted by Parry (2005) and is also addressed in the Prevention of and Treatment for Substance Abuse Draft Bill. Despite the fact that substance disorders are internationally defined as psychiatric disorders, and despite the high levels of co-morbidity of substance problems and mental illness, these two overlapping areas are addressed by different government departments (the Departments of Social Development and Health respectively). The lack of integration of substance and mental health services results in a lack of services that can offer treatment for both substance abuse and other mental disorders (Parry 2005).

Given this disparity, the efficacy of treatment of both mental and substance abuse disorders is severely compromised. It is essential that all clients receiving services for substance abuse undergo a psychiatric assessment by a qualified mental health professional.

Detection and the appropriate management of substance abuse and dependence in general medical services also needs urgent review. International research indicates that between 50-90% of primary health-care workers fail to recognise substance abuse in their out-patient population (McPherson and Hersch, 2000). The availability of quick, highly sensitive and specific tools to detect substance abuse indicate that the problem lies with the training and supervision of health-care workers (McPherson and Hersch, 2000). The additional lack of addictionologists precludes the continuous training and assessment of service provision. Inadequate screening for substance abuse is also likely to be related to the lack of treatment services, while overloaded health workers are unlikely to screen for a condition for which there is no available treatment.

Little attention has been paid to harm-reduction strategies, which are in operation, for example, in the Netherlands and the United Kingdom. Needle-exchange programmes, alcohol-server intervention programmes, and the control of smoking in public places are examples (Cheung, 2000).

Lastly, the response to the dramatic rise in methamphetamine ("tik") use has been criticised; Parry et al (2004) have noted that

> … provincial responses during 2004 have focused almost exclusively on social service and policing interventions. Given the likely future burden of MA on the health sector, a greater public health response to this threat is urgently required.

Parry et al (2004) recommend raising awareness, introducing evidence-based prevention programmes (such as those discussed here) and providing adequate treatment facilities.

> ➢ Existing interventions are inadequate to have a major impact on substance abuse.
>
> ➢ A lack of proper integration across the Departments of Social Development, Community Safety and Health impedes prevention efforts.
>
> ➢ There is a gross lack of treatment services which are a vital component of prevention.
>
> ➢ All treatment facilities should employ mental health professionals.
>
> ➢ All substance abusers should be screened for other mental disorders.
>
> ➢ Harm reduction strategies should be considered.
>
> ➢ As it stands, the Liquor Act will not reduce the consumption of alcohol.
>
> ➢ The response to "tik" has been insufficient.

Table 10: Governmental interventions targeting substance abuse

Name of Intervention	Description of intervention	Organisation
Ke Moja	Information sessions (6 x 90minute sessions) given to youth in schools or other sessions. Information given depends on each local area but broadly covers the negative side-effects of drugs & alcohol and suggests alternative coping skills. Tobacco not covered. HIV risks not covered.	Department of Social Development
Drug Information School	Youth caught in possession of illicit drugs by SAPS are obliged to attend this programme: consists of 4 day workshop on dangers of drugs and alternative choices	Department of Social Development
Sensible Drinking Project	Community health workers from the areas provide education on alcohol and its risks at schools, shebeens, chronic disease and TB clinics, and (rarely) sports events	Department of Health: Metro District Health Services
Training in substance disorders	Training of health care workers (from nurses to doctors) in screening and management of substance problems including motivational interviewing and brief-intervention techniques	Department of Health & APH
Liquor Control Project	Annual programme every November to Mid-January: 1) Increased police visibility in and around shebeens (supported by roughly 600 volunteers); 2) Police raids of shebeens (for underage drinkers, liquor licences); 3) Shebeen owners sign voluntary Code of Conduct (about not selling to underage drinkers; providing food at shebeens; sticking to certain opening hours), which is then monitored by the volunteers mentioned above. 4) Workshops held with shebeen owners to encourage them to get licences (so that the Code of Conduct mentioned above may be enforceable); 5) Puppet shows put on or children on the dangers of abuse, and to encourage better decision-making skills (also done by roughly 120 volunteers); 6) Talks at secondary schools on alcohol abuse and life-skills; 7) Distribution of pamphlets to the "drinking public" (pamphlet on file); and 8) COSATU shop stewards trained on the dangers of alcohol abuse and on the promotion of responsible drinking.	Department of Community Safety

Table 11: Non-Government Organisations targeting substance abusers in the Western Cape Province

Training in substance disorders	DOH & APH Mental Health Dept. Social Services		Health care workers and social workers at primary, secondary and tertiary levels	Metro Selected Province	No. of people trained (pending) Others (still developing)	Still developing ***1. Reduce the demand for SOA*** 1. Restrict or ban advertising of alcohol
Drug Information School	Dept. Social Services Substances: Operational support Dept Justice	13-25 years	Youth at risk	Metro Selected Province	No. of youth trained	Not Measured
Sensible Drinking Project	DOH: Metro District Health Services City Health SANCA: Funding conduit UWC: Training SAB, Guiness: Funding		Youth Shebeen attendees People with chronic diseases ALL IN 'HIGH RISK" AREAS	Metro	1) No. of co-ordinators trained (6) 2) No. of people trained in brief motivational interviewing (244) 3) No. of people reached by talks (no figures available)	Not Measured

D. Recommendations

The recommendations have been organised with respect to their intended effect on either reducing the supply of, or demand for, substances of abuse (SOA).

1. Reduce the supply of SOA

  a) Conduct concurrent anti-alcohol and drug media campaigns that challenge prevalent beliefs and "norms".

  b) Increase references to substance abuse in other health promotion messages (e.g. HIV, chronic disease prevention messages).

  c) Include substance prevention programmes in school curricula: make use of social influence and competence enhancement models, begin in primary school, provide other mental health services in schools, ensure that the intervention is ongoing and not once-off and review the appropriateness of existing interventions in schools.

  d) Increase the cost of alcohol (in the form of taxes, which could be used to fund treatment services).

  e) Train primary care and other health workers in screening and brief interventions for substance abuse and dependence. Ensure that appropriate referral networks are in place for referral of clients.

  f) Provide adequate substance dependence treatment services.

  g) Increase the number of detoxification facilities.

  h) Improve integration between mental health and substance services.

  i) Ensure mental health staff are included as core staff members in treatment services. All clients receiving services for substance abuse or dependence must undergo a psychiatric assessment by a qualified mental health professional.

  j) Increase the number of dedicated in and out patient substance dependence treatment facilities across the Province

  k) Increase the number of addictionology specialists available to general medical and psychiatric services

  l) Increase equity in access to treatment services. Rural services should be provided and treatment should be offered in isiXhosa and Afrikaans.

2. Reduce the supply of SOA

  1. Reduce the availability of alcohol by:
     a) restricting trading hours, outlet density regulations, and days of sale;
     b) introducing alcohol-server interventions;
     c) introducing more stringent disqualification criteria;
     d) providing obligatory training of licence holders and their employees on responsible drinking and server interventions;
     e) introducing criteria for renewal of licenses

2. Enforce existing laws on alcohol (in particular the licensing of establishments that sell liquor and the legal purchasing age) and other substances of abuse.

3. Mix supply and demand interventions

1. Incorporate addressing substance abuse into multi-faceted community development interventions such as Communities That Care interventions (described above).

2. Consider "harm reduction" interventions, such as the sensible-drinking project.

Settings for interventions

While some of the interventions are setting-specific as indicated in the text, others could be implemented in a range of settings including police stations, health facilities, recreational facilities, communities, bars and shebeens.

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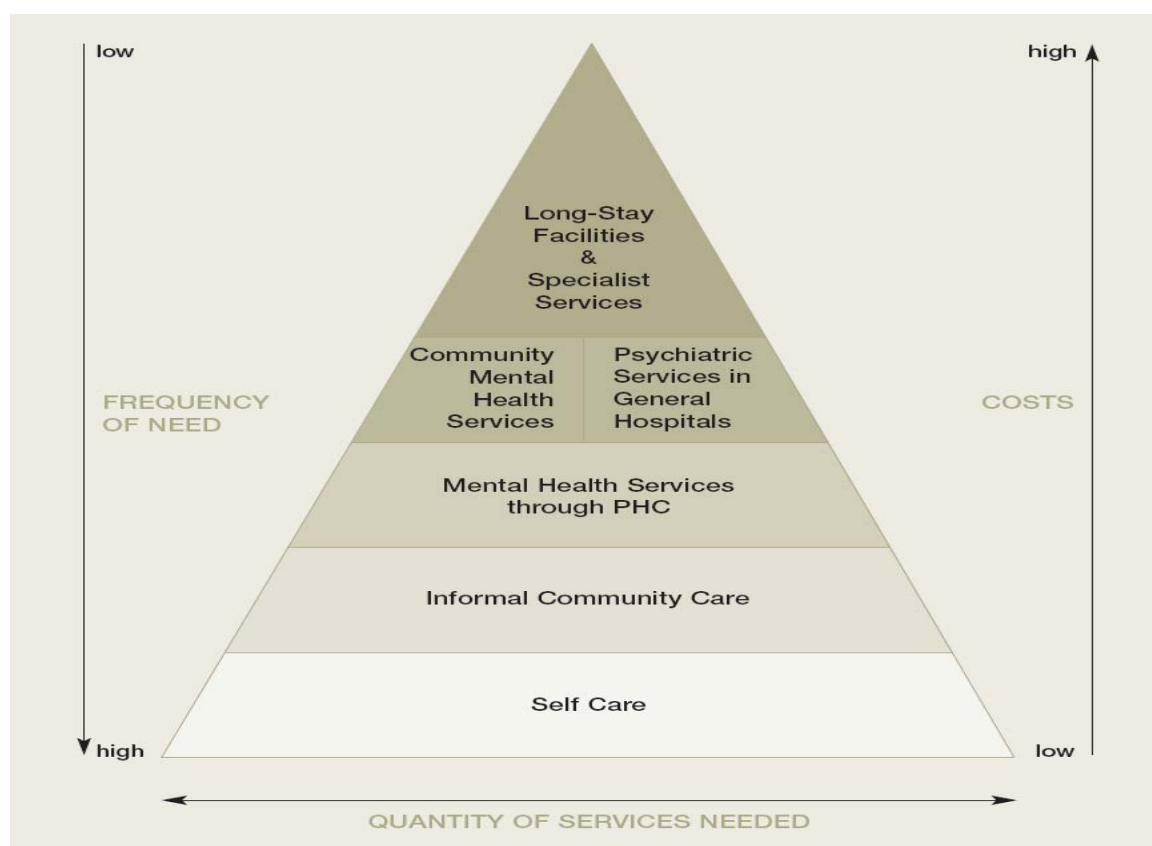
IV. MENTAL HEALTH SERVICES

Since mental illnesses tend to be chronic and recurring, secondary and tertiary prevention are key to reducing their share in the burden of disease. The profile of disability in the Western Cape Province, for example, shows that 22.6% of all disability arises from cognitive or emotional disability (Census, 2001).

In South Africa, neuro-psychiatric disorders account for the second highest proportion of the local burden of disease, after HIV/AIDS (Bradshaw 2003). To address this substantial burden, it is essential that mental health services are organised appropriately. The World Health Organisation (2003) provides guidelines on the suggested hierarchy of mental health services based on models of mental health services from around the world. A tiered approach is advocated, whereby most needs are met, and most contacts made, at community and primary care level (approximately 90% of services — see Figure 10 below). Informal and primary health-care community mental-health services need to be established and developed. A secondary level of service is then added: psychiatric services based in general hospitals and formal (secondary) community mental-health services, followed by specialist mental-health services and dedicated mental-hospital facilities.

Figure 10: Optimal mix of different mental health services

(Source: WHO, 2003:34)

Three broad categories of mental-health services are described (WHO, 2003):

1. mental-health services integrated into general medical services;

2. community mental-health services; and

3. institutional mental-health services.

Each of these categories has particular characteristics, providers and settings as detailed in Table 12 below on page 92.

Current evidence suggests that most resources should be used to develop and support community and primary mental-health services (WHO, 2003). In reality, these services are usually poorly developed, resulting in most resources being allocated to specialist mental-health services; until community, primary-care and general hospital services are advanced, existing tertiary mental-health services need to remain resourced. There are many examples from around the world of de-institutionalisation programmes that have not been accompanied by appropriate development of community services, which have resulted in swelling populations of both homeless people and prisoners who remain mentally ill (Birmingham, 1999; Lamb, 1998; Thornicroft, 1999).

WHO (2001, 2003) also emphasise the importance of a comprehensive approach to mental-health service provision that includes mental-health promotion, the prevention of disorders, treatment, and rehabilitation. Mental-health promotion (MHP) in the context of mental-health services should include activities that are designed to:

➢ prevent a relapse in those already mentally ill. This could include, for example, treatment adherence, support groups, income support, and the promotion of exercise;

➢ foster the early detection and prevention of mental illness in those affected by mental illness by, for example screening the children or family of those with a history of mental illness

➢ target high-risk groups of individuals or particular individuals for whom there is evidence that mental health problems will ensue, should their behaviour or problem not be detected in time. These include those exposed to high rates of trauma, or individuals who display high-risk behaviours, such as illicit drug use, promiscuity, or compulsion.

Although the review that follows presents evidence for services according to the WHO typology, health facility community mental-health services are discussed together with institutional mental-health services under the topic "Dedicated psychiatric services". De-institutionalisation is currently advocated in the context of expanding community-based mental health services and – given the linkage between the two initiatives - it is useful to consider these two types of services together.

Table 12: Categories of mental-health services (WHO, 2003)					
Broad category	**Type**	**Description**	**Characteristics**	**Providers**	**Setting**
Mental health services integrated into general medical services	*Primary care mental health services*	Broad-based preventive and treatment mental health services offered by primary care providers	accessibility, acceptability, reduced stigma, proximal to gen. primary services, cost –effective	Professionals (GP's) and non-professionals, trained in basic mental health service provision	Primary care clinics, home visits, schools
	Secondary, district, general hospitals	Secondary care offered in a general hospital. Includes general and sub-specialist services.	Accessibility, acceptability, liaison nature of service, relatively intensive treatment	Specialists, dedicated mental health care providers from para-medical disciplines	District or tertiary medical hospital
Community mental health services	*Formal community mental health services*	Non-hospital based services such as crisis care, rehabilitation/group homes and home-based care	Acceptable, accessible, not always cost-effective in the short term, often poorly resourced	Medical practitioners, social workers, volunteers and other health service providers	Homes, residences, non-hospital based centres
	Informal community mental health services	Mental health services not provided within established service parameters	Acceptable and accessible; informed by local cultural needs and norms; may have cost	Volunteers, traditional healers and complementary healers	Homes or centres; non-hospital-based
Institutional mental health services	*Specialist institutional mental health services*	Out-patient clinics, public or private hospital-based facilities- such a forensic or eating disorder units	costly, difficult to access, and associated low acceptability	Specialists and paramedical mental health professionals	Hospitals, or centres dedicated to mental health services
	Dedicated mental hospitals	Out-patient clinics and long stay/custodial mental health care	Costly, poor accessibility, and associated low acceptability/high stigma	Specialists and paramedical mental health professionals	Hospitals

A. Community mental-health services outside of the health sector

Community mental health services are formal and informal services located outside of hospital in-patient services that aim to improve the mental health of their clients. The service providers can include nurses, occupational therapists, social workers, psychologists and psychiatrists who may work in multi-disciplinary community mental health teams (in the case of formal CMHS), as well as volunteers (who may work in informal CMHS) as described above.

The evidence presented in this section focuses on interventions outside the health sector and covers school-based mental-health services; workplace-based mental-health programmes, home-visiting interventions; and mental health literacy interventions.

1. School-based mental health programmes
School-based mental-health programmes comprise three elements:
  a) Formal mental-health services delivered at schools;
  b) Whole-school programmes designed to promote mental health; and
  c) Curriculum elements intended to promote mental health.

There are three key reasons to invest in school-based mental-health programmes. Firstly, there is a high prevalence of mental-health problems in children, and many of them have multiple problems (Browne, Gafni, Roberts, Byrne, & Majumdar, 2004). Secondly, the school provides an environment where children may easily be accessed for intervention; and thirdly, interventions with children and adolescents provide an opportunity to prevent the later onset of mental disorders, and promote all-round mental health.

In terms of prevalence, a local study estimated an annual prevalence of 17% for psychiatric disorders present in children and adolescents (Kleintjes et al, 2006). Leaving these conditions untreated can be costly, since they are associated with a great degree of impairment; have an enduring longitudinal course; attract a considerable financial burden into adulthood; and are associated with risk behaviours that present immense public challenges (Flisher, Hatherill, & Dhansay, in press).

1.1. Evidence for interventions
The most-studied area for school-based mental health interventions is aggressive behaviour and delinquency. A review of the literature identified the following three main approaches (Shaw, 2001):
  a) <u>Organisational change:</u> A number of projects demonstrate that improved classroom management, school organisation and leadership, result in reduced school drop-out, truancy and offending, and in improved educational achievement.
  b) <u>Whole-school anti-bullying programmes:</u> Bullying puts children at risk for mental-health problems, as well as lower educational attainment (Olweus, 1993). The Olweus Bullying Prevention Programme (Olweus, 1997) uses a combination of approaches in order to reduce

opportunities and rewards for bullying. Elements of the programme include school rules prohibiting bullying, better playground supervision, anti-bullying classes in the curriculum, and encouraging reporting of bullying. This, the best-known anti-bullying programme, has resulted in significant reductions in bullying and in theft.

c) <u>Family-school partnerships:</u> Partnership projects typically target high-risk families and children, and use combinations of home and school support that may include parenting-skills training, social-skills training for children, and a home-school phone line. Good results have been found for such a programme in the UK

Another review, also addressing programming to reduce aggressive behaviour, identifies a number of types of programmes set within the school as shown in Table 8 below (Wilson, Lipsey, & Derzon, 2003). This review found that, on average, they reduced aggressive behaviour by half, compared with untreated control groups.

These programmes were effective in reducing aggressive behaviour that was already occurring, rather than preventing it from occurring, and the most dramatic effects were therefore observed in schools with existing high rates of aggressive behaviour. Programme characteristics were important in predicting outcome: most successful programmes were behavioural and counselling programmes, with academic and separate schools/classrooms comparable (there were unfortunately fewer studies of these). Next most successful were social competence training with or without cognitive-behavioural components, and finally, multimodal and peer mediation programmes showed the smallest effects.

Table 8: School-based Interventions
(identified by Wilson, Lipsey, & Derzon, 2003)

Separate schooling/schools within schools	Students are placed in separate classrooms for all or part of their regular instruction and receive other therapeutic components that may include social competence training, behavioural techniques, and counselling. Teacher-student ratios are usually smaller than usual classrooms.
Peer mediation	Selected students receive training in conflict resolution skills and serve as mediators for other students experiencing peer conflicts.
Academic and educational services	Interventions involve various academic or educational services, such as Head Start-like preschools, academic tutoring, reading programmes, and the like.
Multimodal	Interventions include at least three components, such as social competence training or counselling for children, training in classroom management for teachers, school-wide reviews of disciplinary policies, parent training, academic services, peer mediation programmes, and the like.

A meta-analysis also identified programme characteristics that influenced success: in general, programmes were more effective when they were implemented well; when they were relatively intense; when they used one-on-one formats; and when they were implemented by teachers. Other reviews suggest school factors that are important in successful implementation: adequate training of service delivery personnel, supervision, and support of the school principal (Gottfredson, 1997; Gottfredson & Gottfredson, 2002).

Another set of interventions aim at teaching children skills to improve coping, including interpersonal problem-solving and emotion-focused skills. Such skills have been shown to act as buffers in the face of negative life events (Pincus & Friedman, 2004). Overall, those approaches based on the Interpersonal Cognitive Problem-Solving curriculum (Shure, 1992) show significant improvements in children's problem-solving, and that these are related to improvements in children's peer acceptance, resilience, behavioural adjustment, social competence, and reductions in specific problems of childhood (such as impulsive behaviour, antisocial behaviour, depression and aggression). However, these problem-solving programmes do not include training in emotion-focused training, which may be as important as teaching active problem-solving since several problems require one to adjust to the stressor, rather than to act to remove it. Examples of emotion-focused coping include ways of altering thoughts and feelings, understanding how thoughts affect feelings, and ways to reduce tension. Programmes that teach emotion-focused coping skills in addition to problem-solving have been much less studied than the programmes teaching only problem-solving, but results from one programme that did so showed that children could indeed learn these skills (Pincus et al., 2004).

The skills-training programmes are typically integrated into the school curriculum and thus reach all children in the school. Other forms of intervention are targeted specifically to children who have emotional disturbances. A review of the literature in this area (Reddy & Richardson, 2006) described three studies that met strong criteria: they were designed specifically for children at risk or with emotional disturbances; they focused on academic as well as behavioural outcomes; each programme had published at least 3 outcome studies; and experts in the field agreed that they were excellent programmes.

The review found that what worked was (Reddy et al., 2006):
- ➢ Screening to ensure that children obtained appropriate intervention services tailored to the strengths and challenges of the individual child;
- ➢ Outcome assessments that comprehensively examined multiple domains (academic, behavioural and social competencies);
- ➢ Assessment of quantifiable behavioural goals;
- ➢ Empirically supported academic and behavioural interventions;
- ➢ Well-defined treatment components;
- ➢ Intensive skill-based parent and teacher training;
- ➢ Home and school contingency management programmes;
- ➢ Interventions tailored to the child's developmental level;

- Culturally appropriate interventions that target functional behaviours and competencies in children, parents and/or teachers;
- Parents and teachers as agents of therapeutic change;
- Varied treatment agents (e.g., regular and special education teachers, teacher aides, parents, school psychologists, social workers); and
- Different treatment settings (e.g., regular classrooms, playgrounds, after-school programmes, home).

The programmes reviewed by Reddy and Richardson (2006) are labour-intensive programmes tailored to individual children with identified problems and were found to have been effective in reducing anxiety symptoms either in the school population as a whole (FRIENDS) or in the specific children enrolled in the programme. This demonstrates that programmes initially designed for formal mental health settings can effectively be delivered in school settings (McLoone et al., 2006).

It is thus clear that evidence-based prevention and intervention programmes can be delivered in schools, and can be effective in reducing mental health and behavioural problems in children. A review of such programmes that examined those specifically implemented by teachers finds that the following factors influence their sustainability (Han & Weiss, 2005):

- Teachers should perceive the programme as effective and complementary to their teaching style
- The programme must be effective – that is, it must have the ability to change children's emotional and behavioural functioning. The best way to ensure this is to select an empirically validated programme, and then to ensure that it is implemented with fidelity. It is also important that teachers see a change in students' behaviour as they implement the programme, and that they attribute this change to the programme. Ongoing feedback to teachers may be crucial to ensuring this.
- Sustainable programmes must be practical and feasible to implement
- Provision of sufficient resources to ensure ongoing programme implementation.
- Programmes must be flexible, so that they can be adapted by teachers to meet the changing needs and circumstances of students and schools.

Conclusion

Schools which improve classroom management, leadership and overall school organisation, are likely to reduce behavioural problems and improve academic performance in students.

Whole-school anti-bullying programmes have similar effects.

Programmes based on cognitive-behavioural approaches, such as problem-solving and emotion-focused coping programmes, are effective in reducing both internalising and externalising disorders

Teachers can effectively implement many such programmes, provided that they are given sufficient training and support.

1.2. Existing interventions

School-health programmes fall under the Directorate: Specialised Education Support Services, within the Western Cape Education Department (WCED). The following information was kindly provided by Dr Theron, Director of Specialised Education Support Services. This Directorate is responsible for school nutrition; school health services (including psychology, social work, physical health and therapeutic services); HIV/AIDS issues in the life skills curriculum; and they provide support to learners who have barriers to learning in mainstream schools, either through one of the 70 special schools in the Province (or a specialized unit within a hospital or other setting), or through providing resources to mainstream schools. The service is currently being extended via an increase in posts for psychologists, social workers and school nurses.

WCED is structured so that services are delivered through Circuits, which are organized into seven Districts across the province. Within each District, one of the four service delivery areas is for specialized learner and educator support. In each district, there are at least 10 psychologist posts (78 across the province), of which approximately 50% are licensed psychologists; the remainder are counsellors (typically with an Honours degree in psychology). The number of psychologist posts is being increased so that within the next few years the service will meet the international norm of 1 psychologist to 10 000 children. Psychologists provide a range of services in schools, including career counselling, trauma debriefing, and assessing children for placement in special schools. Social worker posts will shortly be increased to approximately 40. There are currently 65 Learning Support Teachers (shortly to be increased to 450 over 1 500 schools), whose role it is to support learners who face barriers in mainstream schools. Special Schools are also being capacitated, in terms of Education White Paper 6, to act as resource centres for surrounding areas. In addition, Educator Support Teams are being established at every school: this is a small team of experienced teachers who will address health and social issues at school level. The curriculum also includes Life Orientation, a compulsory subject from Grades 1 to 12, and which includes components that are intended to help children build resilience to involvement in risk behaviours. Life Orientation teachers are receiving in-service training in counselling, in order to address this need at school level, too. Finally, services are being restructured so that delivery will happen through Circuits rather than Districts, thus bringing delivery closer to local needs.

Some of the gaps in services at present are, as described by Dr Theron, that there are insufficient social workers and insufficient Learning Support Officers (he estimates that there should be at least 800 of the latter, so that the numbers approach 1 per school). The social work service in schools is at present not able to meet the demands occasioned by (for instance) child abuse and neglect cases; these are particularly demanding of time, as social workers need to spend time in court. In addition, Dr Theron nominates that there are insufficient school nurses and doctors, and that the health needs of learners would be better served if there were improved collaboration between WCED and the Departments of Health and of Social Development.

Some health services in schools are provided by the Department of Health, chiefly via screening carried out by school nurses. Although the School Health Policy includes requirements for screening children and is being rolled out from Grade R upwards, this screening does not include mental health problems (personal communication, Acting Director, Mental Health and Substance Abuse Directorate, National Department of Health, September 2005). In this regard, it should be noted that no screening instrument has yet been developed that is suitable for implementation by a nurse in a group setting such as a classroom (the most practical means to conduct large-scale screening). Furthermore, school health nurses (who might carry out such screening) are in extremely short supply (personal communication, Rob Martell, Metro District Health Services, Cape Town, February 2006).
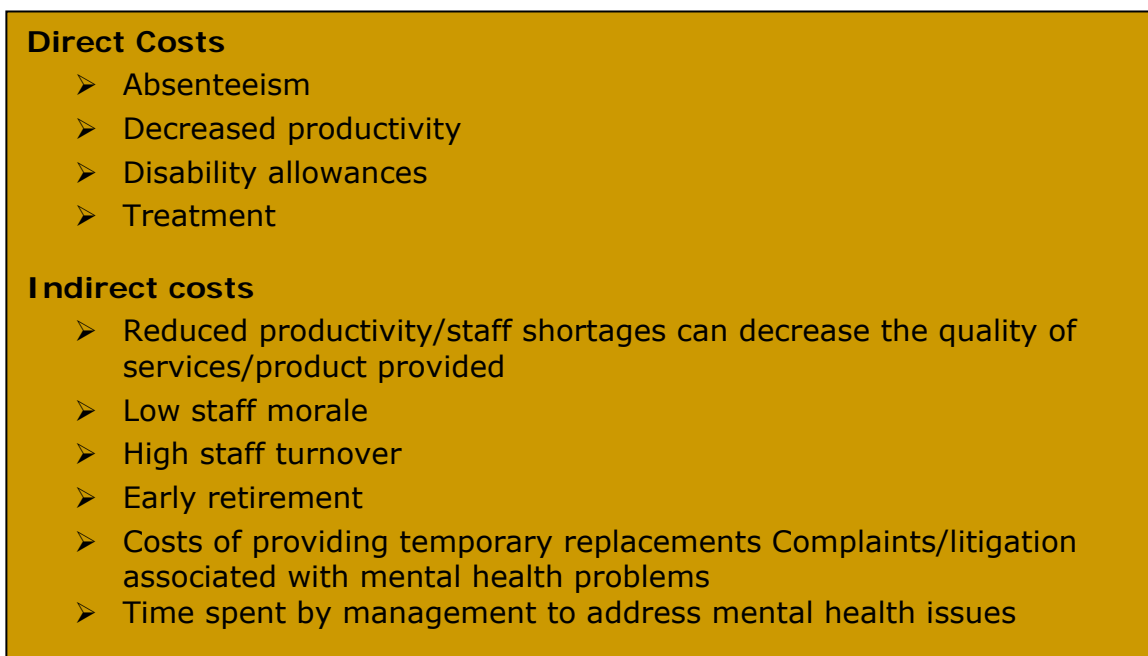
Furthermore, many schools lack the good management that may promote mental health: teacher time is crowded out by the many other functions teachers are required to perform, with teachers spending on average only 46% of school time on teaching (Chisholm, 2004); other research shows that the majority of students fail at most levels of the system, and that school management is often not capable of fulfilling assigned functions (Hoadley, 2007). As discussed in the risk review the school environment in many schools is violent and tense with violence experienced both outside and inside the school. These conditions are likely to provide fruitful breeding grounds for mental health disorders in children, or, at the very least, to make it unlikely that mental health conditions in learners will be identified in the school setting – under good conditions, schools are ideally placed to identify the changes in a child's behaviour that may signal a problem.

> ➢ Specialised Education Support Services provide a range of services that aim to address the mental health needs of learners.
>
> ➢ These services are being expanded: currently there is a major gap between need and supply of mental health staff.
>
> ➢ These services would be greatly improved through better collaboration between the Departments of Education, Health and Social Development.
>
> ➢ No appropriate screening tool for youth at risk of mental illness is available to school health workers.
>
> ➢ The current school environment in many schools is not conducive to mental health.
>
> ➢ The School Health policy does not presently address mental health
>
> ➢ The national guidelines for the development of health-promoting schools have not been widely implemented.

2. Workplace mental health programmes

Outside of the impact of mental illness on individuals, families and communities, mental health problems have an enormous impact on business. In the European Union, for example, the estimated cost of mental health problems in the workplace amounts to 3-4% of the gross national product (GNP) (WHO, 2005:21). The direct financial costs incurred by mental illness arise predominantly from absenteeism and decreased productivity. Research in developed countries has indicated that between 35-45% of absenteeism from work is related to mental health problems with the costs of stress-related absenteeism in the UK amounting to £4-5 billion annually (WHO, 2005). Other direct costs of mental illness include disability allowances (with mental illness the leading cause of long-term absence from work in Canada) and treatment costs. Indirect costs are those related to the effects of mental illness in the workplace and are listed in Figure 11 below (WHO, 2005).

Figure 11: The costs of mental illness to business

Direct Costs
- Absenteeism
- Decreased productivity
- Disability allowances
- Treatment

Indirect costs
- Reduced productivity/staff shortages can decrease the quality of services/product provided
- Low staff morale
- High staff turnover
- Early retirement
- Costs of providing temporary replacements Complaints/litigation associated with mental health problems
- Time spent by management to address mental health issues

In South Africa, alcohol abuse has a large impact on the economy with the annual economic costs of alcohol abuse estimated at between 0,5 percent and 1,9 percent of the country's Gross Domestic Product which translates to about R8,7-billion a year, and with the addition of drugs, at least R10-billion a year (Benjamin 2006).

That a large proportion of these costs relate to losses in productivity is well illustrated by the breakdown of drug and alcohol abuse costs in the United States in Table 13 below on page 100.

2.1. Core features of workplace-based mental health programmes

Mental-health programmes in the workplace would aim to prevent mental illness in company employees. Services would thus need to reduce stressors in the workplace and provide support to those experiencing stressors outside of the workplace. They would then need to incorporate promotive, preventive and curative components. The World Health Organisation (WHO, 2005:19) describes five main strategies that should form part of a workplace mental health programme:

Table 13: Economic costs of substance abuse in the US, 1992

Economic costs	Alcohol	Drugs
Health care expenditures		
Alcohol and drug abuse services	$5573	$4400
Medical consequences	$13 247	$5531
Total, health care expenditures	$18 820	$9931
Productivity impacts (lost earnings)		
Premature death	$31 327	$14 575
Impaired productivity	$67 696	$14 205
Institutionalized populations	$1513	$1477
Incarceration	$5449	$17 907
Crime careers	—	$19 198
Victims of crime	$1012	$2059
Total, productivity impacts	$106 997	$69 421
Other impacts on society		
Crime	$6312	$17 970
Social welfare administration	$683	$337
Motor vehicle crashes	$13 619	—
Fire destruction	$1590	—
Total, other impacts on society	$22 204	$18 307
Total	$148 021	$97 659

(Source: Harwood et al 1992:632)

   I. <u>Increasing employee awareness of relevant mental health issues</u>

  II. <u>Supporting employees at risk</u>

This could include counselling, support groups, brief interventions, child care provision and Employee Assistance Programmes. At risk populations would need to be defined in each setting and would include employees with chronic health problems (e.g. back pain, HIV), single mothers and shift workers.

III. Providing treatment for employees with a mental-health problem

Treatment could be provided on site or employees referred to the necessary services.

IV. Changing the organisation of work

Areas to address would be redressing the effort/reward balance, improving communication and staff participation, enhancing social support, increasing job control, assessing job demands, clarifying job roles, reviewing the work environment and clarifying the organizational structure and practices.

V. Reintegrating employees with a mental-health problem into the workplace

2.2. An example from The Caregiver Support Programme

The Caregiver Support Programme was designed to increase social support and participation in work related decision making for caregiver teams in health and mental health care facilities. The programme involved six training sessions of four to five hours long. With groups of approximately ten home managers and ten direct care staff, sessions were focused on: (1) understanding and strengthening existing helping networks within the organizations; (2) increasing worker participation in decision-making and using participatory decision making; (3) teaching supervisors and direct care workers to develop and lead training activities in their home site; and finally, (4) teaching techniques for maintaining these new skills over the long-term. To ensure effective delivery, social learning principles were employed to engender a strong sense of mastery and to inoculate workers against setbacks.

Results of a large-scale randomised trial indicated that the programme increased the amount of supportive feedback on the job, strengthened participant perceptions of their abilities to handle disagreements and overload at work, and enhanced the work team climate in the group homes. The programme also enhanced mental health and job satisfaction of those who attended at least five of the six training sessions. The Caregiver Support Program also had positive effects on the mental health of those employees most at risk of leaving their jobs." (Jané-Lopis et al, 2005:13)

Conclusions

➢ The costs of mental illness to business are enormous; substance disorders alone are estimated to cost R10billion rand a year.

➢ The majority of costs are due to absenteeism and losses in productivity.

➢ Mental health programmes have been shown to be effective and should consist of promotive, preventive, curative and rehabilitative components.

2.3. Existing interventions

While the Labour Relations Act (1995), Basic Conditions of Employment Act (1997) and Employment Equity Act protect workers from a range of 'unfair' labour practices, the acts do not make provision for the protection of mental health e.g. it does not take issue with repetitive unstimulating work in noisy conditions. The Occupational Health and Safety Act (1993) and Mines Health and Safety Act (1996) address a range of physical and neurotoxic hazards but stop short of addressing psychosocial workplace hazards. Notwithstanding difficulties in establishing the work-relatedness of mental disorder in particular individuals, it is concerning that, with the exception of Post Traumatic Stress Disorder, the Compensation for Occupational Injuries and Diseases Act (1993) does not make provision for the compensation of work-related mental illness e.g. chronic insomnia secondary to prolonged nightshift work is not compensable. Given the absence of reference to mental health in occupational and labour legislation it is unlikely that most businesses have incorporated mental health programmes in their workplaces.

Within government departments there are Employee Assistance Programmes (EAP) which offer employees and their families short-term counselling services (up to 8 sessions) and assistance with a range of stressors including debt management (Draper & Corrigall 2006). Longer term psychiatric services are not provided by the state. Awareness, utilisation and the quality of these programmes needs to be evaluated.

> ➢ Occupational and Labour legislation does not take sufficient account of mental health hazards and provision for mental health programmes.
>
> ➢ Government departments offer EAP services but these are limited in scope and require employees to seek actively seek help.

3. Other

3.1. Home-visit interventions during the peripartum period

Home visiting programs are defined by their setting and their goals of assisting young children and their parents (Sweet and Appelbaum 2004). The idea is premised on the belief that parents have the potential to mediate changes in their children and the home-setting enables access, whole-family involvement and increases rapport. In a meta-analysis of home visiting interventions in the USA, Sweet and Appelbaum (2004) found that most (76%) of programs targeted high-risk families, the types of services included parenting education(98%), social support(58.3%), parent counselling (41.7%), information on child development(91.7%) and 33.3% provided child health or developmental screening. Most programs began between birth and three years of age and most (75%) employed professionals, while 45% also employed paraprofessionals.

The results of the meta-analysis indicate that overall children in families who received home visiting fared better than did control group children in terms of

cognitive, socio-emotional and child abuse outcomes. Parents also benefited with reported improvements in parenting skills and maternal education. The authors caution however that effect sizes were small and as such this field would benefit from cost-benefit analyses.

A systematic review of experimental studies on the impact of home visiting by Kendrick et al (2000) showed that home visiting programmes are effective in improving parenting skills, the home environment, improve child intellectual development, decrease child behavioural problems, improve the detection and management of postnatal depression and reduce the frequency of unintentional injury.

One study indicates that the benefits derived from home-visiting interventions may persist until adolescence; Saxena et al (2006) describe the Prenatal and Infancy Home Visiting Programme which is a two-year nurse home visiting programme for pregnant teenagers. Randomised controlled trials of the programme show reductions in child abuse, increased maternal employment and reduced substance disorders and criminal behaviour in the children at age 15 years in the intervention groups.

A major limitation of the available evidence is the lack of evidence from developing countries with the overwhelming majority of studies coming from the USA (Kendrick et al 2000).

3.2. Peer support for new mothers in disadvantaged areas
The Community Mothers Programme is a community-based intervention that recruits and trains volunteer mothers in low socio-economic areas to provide support and general health advice to new mothers in their community. Outcomes include improved maternal mental health, parent-child interaction and child nutrition and follow-up studies at 7 years after the intervention found that these benefits had been sustained and extended to subsequent children (Jané-Lopis 2005). Furthermore, the intervention was found to have additional spin-offs for the volunteers who had become involved in other community projects including adult literacy and counselling. This intervention has been replicated in Ireland, Australia, the Netherlands and the USA where similar outcomes have been demonstrated (Jané-Lopis 2005).

3.3. Raising mental health literacy and decreasing stigma
Kohn et al (2004) define the 'treatment gap' as "the percentage of individuals who require care but do not receive treatment" (Kohn et al 2004, p.4). Calculated from epidemiological studies across the globe, the median treatment gap for depression was 56.3%, for Generalised Anxiety Disorder, 57.5% and for Alcohol Dependence and abuse, an alarming 78.1% (Kohn et al 2004). The authors note that the treatment gap in developing countries is likely to be much larger; members of the South African Depression and Anxiety Support Group reported waiting on average 3-5 years before seeking help and 25% saw seeking treatment as an indicator of personal failure (Seedat et al 2002). In general, delays in health-seeking behaviour can result from lack of recognition of the problem, poor faith in treatments available, belief that the problem will spontaneously remit, fear of side-effects, and fear of stigmatisation (Kohn et al 2004). Although the study findings are unlikely

to be representative of the general population, they highlight the extent and nature of some of the obstacles to accessing effective treatment.

A wide range of media campaigns challenging stigma and promoting increased mental health literacy have been implemented in developed countries. Evaluations suggest that these interventions are likely to be effective if supported by local community action (Jané-Lopis 2005). In developing countries school based educational programmes and non-governmental organisations have also successfully raised mental health literacy (Patel et al 2005).

Conclusions

➢ There is strong evidence that home-visiting interventions in the peri-partum period is beneficial for the mental and physical health of mothers and their children.

➢ No research has evaluated home visiting programmes in developing countries; the efficacy of interventions in these settings should be evaluated.

➢ There is some evidence to suggest that mothers from the at-risk community can successfully support new mothers.

➢ Mental Health literacy campaigns are needed to increase mental health literacy and reduce stigma so that people are enabled to make healthy choices and access effective treatment.

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4. Community-based psychiatric services

These are considered under Point C, below.

B. Mental-health services integrated into general medical services

Treatment of mental illness can include a range of inputs from psychiatrists, psychologists, social workers, nurses and occupational therapists. It is well established that treatment is effective and cost-effective and as such the evidence for this is not reviewed here; readers wishing to view the evidence are referred to the World Health Report 2001 (available at http://www.who.int/ whr/en – previous reports)

Mental-health services should be integrated into all levels of medical services namely primary, secondary and tertiary services (WHO 2003). The reasons cited for advocating integration include:
➢ Decreased stigma associated with seeking or receiving treatment
➢ Efficiency, particularly in developing countries where there are shortages of mental health staff
➢ High co-morbidity of physical and mental illness
➢ Provision of care within communities

- Many people with psychiatric illnesses present with physical complaints
- Early identification and treatment of mental illness

The World Health Organisation (2003) indicates however that integration of mental health services in general medical services should only take place in the context of planning. A range of needs is encountered, which include:

- *Human resources*: adequate staffing ratios per patient visit and/or in-patient bed; staff training in detection and treatment; improving mental health skills of staff in general medical settings; in-house staff development and adding to existing skills sets; ensuring adequate staff components to multi-disciplinary teams.
- *Facilities*: infra-structure at community health centres includes consultation rooms; secure, safe rooms in district hospitals to manage violent or difficult patients; separate in-patient beds in general hospitals with appropriate security; specialist infra-structure for unique populations, such as children, the elderly and forensic patients
- *Protocols and procedures*: treatment guidelines, assessment procedures, referral pathways, training and resource manuals and links between services created
- *Information management*: Proper information technology, which is safe and secure, yet provides access to treating personnel.

The authors suggest that in developing countries with staff shortages, the absolute number of general medical staff may need to be increased in order to provide sufficient time in consultations for mental health assessments. Another useful suggestion is the integration of mental health services into existing health care programmes e.g. HIV programmes, home-based carer programmes.

The importance of training cannot be over-emphasised; Kohn et al (2004) have documented the inability of general practitioners to accurately identify and treat mental disorders at a global level (2004). This has been confirmed by studies in South Africa where in some settings 37 to 53% of primary clinic attendees were found to have mental illness yet detection of these disorders by clinic staff was between 0-1% (Carey et al 2003; Mkize et al 1998).

Particular fields of general medicine that warrant special attention in the establishment of integrated mental health services are as follows:

- **Maternal services**: studies in a peri-urban settlement near Cape Town have found the rate of maternal depression in the puerperium to be 35% and that this is associated with disturbances in child-mother interactions (Patel et al 2005); the importance of facilitating optimal early childhood development cannot be over-emphasised. Mothers have particular medical needs and are thus best treated in settings that can accommodate both their physical and psychological needs
- **HIV services**: a sizeable percentage of people with HIV/AIDS will experience mental illness as documented by numerous studies and systematic reviews (see risk review for details)

- **Trauma units and surgery casualties**: given the high prevalence of substance abuse among trauma victims and patients presenting with acute pancreatitis and gastritis, these units should pay particular attention to substance disorders (with respect to training, screening and referral)

C. Dedicated Psychiatric Services:
Institutional and Community-Based Mental-Health Services

Establishment of community mental health facilities is advocated which should include out-patient services, day centres, hospital diversion programmes, crisis teams, group homes, halfway houses and case management services (WHO 2003). The contribution of non-governmental organisations (NGOs) in these areas is crucial and should be supported.

Dedicated mental hospitals are no longer recommended due to cost-inefficiency, stigmatisation of users and their families, human rights violations and increased disability of clients associated with admissions. The results of studies comparing the outcomes of standard in-patient care with community-based care in developed countries is shown in Figure 11 below. It should be noted however that community based care reported in these studies goes beyond providing out-patient services and would incorporate and proper case management services (e.g. home visiting of unstable patients) in a community. Plus signs indicate better outcomes in the intervention (community-based) groups.

Figure 11: Outcomes of community-based care compared to standard in-patient care

Table 1. Studies comparing the effects of community-based treatment with those of standard inpatient care

Study	Global symptom-atology	Psychosocial adjustment	Admission/ readmission rates	Length of stay in hospital	Patient satisfaction	Less medication	Employment	Family burden
1	+	+						
2			+	+	+		+	+
3			+	+	+		+	+
4	+	+	+			+	+	
5	+	+	+			+	+	
6	+	+	+			+	+	
7	+	+			+			
8	+	+			+	=	+	
9	+	+	+		+			
10	+	+	+		+			
11	=	=			+			

Source: WHO, 2003:46

Given these findings, deinstitutionalization and integration into general medical services with units/wards in general hospitals is therefore viewed as " a necessary part of reforming the delivery of mental health services" (WHO

2003, p42). Having said this, it is imperative that alternative care arrangements be in place prior to diverting patients out of such institutions. The requirements for these services are the same as those discussed in (2) above (training, facilities, supervision etc).

When planning services according to this typology, it is also necessary to identify and plan for specific sub-categories of services. These are:

  ➢ General adult psychiatric services

  ➢ Psychogeriatric services

  ➢ Child and Adolescent services

  ➢ Forensic services

  ➢ Intellectual disability services

  ➢ Substance abuse services

  ➢ Consultation-liason services

All require a high degree of unique skills, dedicated in-patient beds, as well as ambulatory care services. While data are available for planning purposes for these services (for example the number of currently available and planned 2010 tertiary beds) *norms data* are currently only available for the child and adolescent mental health services (CAMHS) and are shown in Table 14 below.

Table 14: CAMHS norms data for the Western Cape

Indicator	Western Cape
Provincial population <20 years	1 683 053
Estimated total prevalence	287 555
Minimum population needing CAMHS	57 219
Primary health care FTE staff norm	224.4
Gen hospital OPD FTE staff norm	23.4
Gen hospital in-patient FTE staff norm	2.2
Specialist CAMHS OPD FTE staff norm	42.3
Specialist CAMHS in-patient FTE staff norm	24.5
Specialist CAMHS day service FTE staff norm	21.2
Formal CAMHS teams FTE staff norm	6.4

[FTE= full time equivalent, **OPD**= out patient department]
(Source: Dawes et al,2004)

Similar models may be generated for the other services, but must be informed by their own unique needs and functions. It must be noted that the majority of services for these areas is provided by existing primary and secondary level mental health services.

Whether or not some of these services are speciality or sub-speciality services is contentious; this controversy is easily addressed if one considers the physical illness speciality equivalents e.g. paediatrics is not regarded as a subspecialty of medicine but a speciality in its own right as it provides a required health care service to a large proportion of the population. Making use of prevalence data may also assist in defining which services should be considered speciality or sub-speciality services.

Existing provision of Mental-Health Services in the Western Cape

The Mental Health directorate has been developing a plan for Community Based Services; it plans for the provision of services targeting those clients with severe mental illness but to a large extent does not provide for clients with more common mental disorders. The focus on the most severely ill is appropriate as these are the most disabled of the mentally ill, however services should be provided for a wider group of clients.

The Western Cape has a large number of NGOs providing services for the mentally ill and include Cape Mental Health, the Trauma Centre, FAMSA, Rape Crisis and Lifeline, however these services are grossly insufficient to provide for the level of need in the Western Cape and tend to be under funded on the whole. NGO services tend to be concentrated in the Cape Metropolitan area with many rural areas having no access to these services. Many NGOs receive funding from the Departments of Health and Social Development but complain that funding is grossly insufficient and erratic (Draper and Corrigall 2006).

Research into appropriate staffing norms for mental health services in South Africa has been conducted and is a useful measure of the appropriateness of existing mental health services. It should be noted, however that the *quality* of services provided is equally important, and while the quantity of service providers has implications for quality, more extensive data on this is not currently available.

In order to establish an evidence base for the need for mental health services, two broad categories of information are needed (Joska and Flisher 2005). Firstly, local prevalence rates of psychiatric conditions are needed and secondly, the assessment of mental health service needs of individuals with mental illness. The results of the mental health norms studies (Lund and Flisher 2002; Lund and Flisher 2006) are based on the following parameters:

> ➢ *Population data:* The model is based on a population unit of 100 000 persons. This figure translates well into the coverage provided by major health centres, as well as providing a unit of reference on which to base real population data. Census 2001 data indicates that a total

population of approximately 4.5 million people live in the Western Cape (www.statssa.gov.za/census01); this data would need to take account of population growth and as such estimates presented here are conservative. It should be noted that much higher prevalence estimates have been made of 25% for adults and 17% for children (Kleintjes et al 2006). The figures in Table 11 and 12 should therefore be regarded as providing a basic service for only those with severe disorders.

- *Prevalence rates:* A prevalence rate of severe mental illness of 3%, obtained from the National Co-morbidity Survey (NCS), was used in the models. Severe conditions are those associated with severe functional impairment and disability, and although this category is commonly used in estimating service norms, it is likely that results will *underestimate* the true need for mental health services.
- *Levels of service delivery*: Two levels of service coverage are cited: a 30% coverage (below which care becomes unacceptable) and a 100% coverage (goal of care).
- *Existing package of services offered*: estimates do not speak to the gaps in services as described above

The results of the studies are summarised in Tables 15 and 16 on pages 110 and 111 below.

The results illustrate the short-fall of services in both in-patient and out-patient categories, with the largest gap in service provision existing for ambulatory or out-patient services. It is clear that current national and provincial policies of providing community-based mental health services have yet to be implemented in the Western Cape.

Finally, although there is a paucity of recent data on mental health service provision in the Western Cape, a national survey of mental health services in all provinces is currently under way, and data for the Western Cape will be available this year.

Table 15:. Estimated needs for mental health staff per 100 000 population in the Western Cape

Source: compiled from Lund et al 2002 and Lund and Flisher 2002

Staff category	100% coverage	WHO total	Current provision 2002 per 100 000 population	Current provision 2002 per 4.5 million population	Estimated needs for 4.5 million population	Shortfall per professional category
Enrolled nurses			7.2	324		
Psychiatric nurses	25.1		7.7	347	1130	270
General nurses		24	4.2	189		
Occupational therapists	0.6	2	0.8	36	27	
Occupational therapy assistants	1.9		0.3	14	86	63
Social workers	2.2	3	0.7	32	99	67
Community health workers			0	0	unknown	
Psychologists	1.2	2	0.6	27	54	27
Intern psychologists			0.5	23	unknown	
Psychiatrists	1.55	4	0.8	36	70	34
Psychiatric registrars	1.95		1.2	54	88	16
Medical officers			0.4	18		
Pharmacists			0.2	9	unknown	
Pharmacy assistants			0.1	5	unknown	
Total (nurses)			19.1	860		
Total (all staff)	35.2	36	24.7	1112	1584	472

Table 16: Estimated needs for daily patient visits and in-patient facilities

Estimated needs per 100 000 population	30% coverage	100% coverage	Estimated needs for 4.5 million population	30% coverage	100% coverage	Current provision 2002
Estimated need for ALL daily patient visits	26	87	Estimated needs for ALL daily patient visits	1170	3915	856
Estimated need for daily patient visits at **primary care level** (90%)	23.4	78.3	Estimated need for daily patient visits at **primary care level** (90%)	1053	3523	
Estimated need for daily patient visits at **secondary care level** (7%)	1.8	6	Estimated need for daily patient visits at **secondary care level** (7%)	81	270	
Estimated need for daily patient visits at **tertiary care level** (3%)	0.8	2.6	Estimated need for daily patient visits at **tertiary care level** (3%)	36	117	

Estimated needs per 100 000 population	30% coverage	100% coverage	Estimated needs for 4.5 million population	30% coverage	100% coverage	Current provision 2002
Estimated need for in-patient facilities (beds)	11.4	38	Estimated needs for ALL daily patient visits	513	1710	1400

Daily Patient Visits (DPV) = average number of patients using the ambulatory services in one day
Source: compiled from Lund et al 2000 and Lund and Flisher 2002

D. Recommendations

1. School-based mental-health services

1.1. Interventions to improve school governance, leadership and classroom management should be a priority; whole school interventions are particularly helpful in this regard

1.2. More posts for school psychologists, social workers, doctors and nurses should be created. Although in the Western Cape, numbers of school psychologists are approaching the international norm of 1 psychologist per 10 000 learners, a needs assessment should be conducted to determine whether this norm is suitable in this context. Given the high levels of violence in the Western Cape (let alone the burdens created by other social problems such as substance use), it may well be that this norm does not meet the actual need of Western Cape schools. Similar needs assessments should be conducted for the demand placed on other posts.

1.3. An instrument should be developed for screening for mental health disorders that is suitable for use by school health nurses. Given the paucity of existing services for children and adolescents it may be prudent to only screen those at high risk for mental illness (poor school performance, behavioural problems in the classroom, socially isolated children). Care should be taken to ensure that services are available to meet the identified needs if such an instrument is to be administered across the province.

1.4. Mental health screening should be implemented as part of the school health policy.

1.5. Co-operation between WCED and the Departments of Health and Social Development should be improved.

1.6. Evidence-based mental health promotion interventions should be adapted for use in South African schools, and their effectiveness evaluated.

1.7. The Life Orientation curriculum should be evaluated for its effectiveness

1.8. Mental Health should be core part of the School Health Policy; programmes to prevent teen pregnancy should be part of this policy (including provision of family planning services)

1.9. Implement the Health-Promoting Schools policy

2. Workplace-based mental-health programmes

While all companies and employees stand to benefit from a workplace mental health programme, the state should **ensure that these services are at**

least available to those most at risk for mental illness. Although those working in the informal sector are probably at highest risk for occupational stress (as described in the risk review) workplace programmes for this group would not be practical and one would want to focus efforts on a more easily 'captured audience'. In terms of job categories it would be important to include professionals with high stress exposure such as policemen, teachers, rescue services, fire services and health workers as well as people working in low-wage repetitive jobs with little opportunity for social interaction e.g. factory workers, miners, farm workers and domestic workers (as discussed in the review on the risk factors for occupational stress). Workplace Mental Health Programmes should be tailored to suit each company's needs and should be designed, implemented and evaluated in each company through a collaboration of employers, employees, unions and relevant non-governmental organizations.

Identify the sectors whose employees carry the greatest risks for mental illness which would then be classified as high mental health risk sectors

High risk sectors should be encouraged to develop and implement mental health workplace programmes as part of their occupational health system. Consideration should be given to incorporating workplace mental health programmes for high mental health risk sectors into current occupational legislation (the Occupational Health and Safety Act and Mines Health and Safety Act, possibly as a Code of Practice)

Develop guidelines for the establishment of workplace mental health programmes as a collaborative effort between the Departments of Labour and Health, COSATU and private business representatives. These guidelines can draw on the World Health Organisation's Mental Health Policies and Programmes in the Workplace (http://www.who.int/entity/mental_health/policy/workplace_policy_programmes.pdf) which describes in detail how workplace mental health programmes can be designed, delivered and evaluated.

Establish a workplace mental health programmes unit in major urban centres which can advise business on design and implementation issues

Review and evaluate the outcomes of current government workplace mental health programmes for health workers, teachers and policemen to assess that the five strategies of workplace mental health programmes (as listed above) are adequately addressed.

3. Other Community programmes

Home-visiting interventions for new parents in high-risk areas (as defined by the Multiple Deprivation Index) should be undertaken and evaluated. Where these exist already, they should be supported and evaluated. Ideally, programmes should seek to employ local community members and provide them with the necessary training and resources.

Invest in media campaigns that aim to increase mental health literacy and decrease stigma

4. Mental Health Services in General Medical Services

Integration of mental health into general medical services should occur at all levels of care: primary (clinics, CHCs), secondary (district hospitals) and tertiary (regional hospitals).Integration implies training of general medical staff to deliver basic mental health services (e.g. screening) within the context of their disciplines but also the provision of mental health services within general medical settings (e.g. in-patient units).

Make provision for human resources, training, facilities, protocols and information management as described above. Training of general health workers should be accompanied by ongoing supervision and support by specialist mental health practitioners. Specialists in tertiary services would be important contributors to training programmes. For example, an addictionologist should contribute to designing training programmes.

Urgent attention must be paid to employing dedicated mental health professionals at general hospitals, whose role it is to liaise with existing administration and medical services in order to establish ambulatory care and in-patient beds.

Allocate a greater share of resources to key medical disciplines, namely maternal, HIV and trauma services. Dedicated mental health professionals should be provided in these areas.

5. Dedicated Psychiatric Services

Urgent development of community mental health services

a) Make provision for sufficient human resources, training, facilities, protocols and information management as described above e.g. an infra-structure to perform the service, materials to provide education and training, and a consistent supply of psychotropic medication

b) Staff competencies need to be identified; some may be more suitable to direct patient contacts, some to health promotion activities, and some to liaison with other levels of care and organisations.

c) Access to higher levels of care need to be ensured

d) Links to or networks between the formal and informal community mental health services need to be established. These include links between NGOs, community-based organisations, schools and health facilities

e) NGOs and other informal mental health service providers should be evaluated. Should their programmes demonstrate positive outcomes consistent appropriate financing should be provided and programmes rolled out across the province with ongoing (external) monitoring and evaluation

5.2. Ensure mental health services and facilities are available at secondary and tertiary hospitals as above.

5.3. Utilise a continuous care model. Accepting that a proportion of individuals require in-patient care, but that relative recovery can allow them to return to the community- this requires a package of care in which all psycho-social needs are assessed and addressed in the community. The Assertive Community Treatment team, currently in development by the APH is an example of assertive outreach to severely mentally ill individuals. At present, this service is being run as a research project in order to establish its effectiveness.

5.4 Develop a mental health information system for monitoring and management of mental health services, linked to the general health management information system
   a) A set of key service indicators and associated minimum data set needs to be identified in consultation with key mental health stakeholders in the province.
   b) This needs to be linked with the general health management information system.
   c) Data on service resources and utilisation is necessary for planning of adequate mental health services.
   d) Local data on risk factors can supplement data on service utilisation and assist with tailoring of services to local needs

5.5 Make provision for specialist and sub-specialist posts e.g. addictionologists and consultation-liaison specialists. Child and Adolescent Psychiatrists should be considered specialists rather than sub-specialists. These specialists should provide expertise to all levels of services (primary, secondary and tertiary centres).

5.6. Resources should be allocated to mental health services commensurate with the prevalence and burden of mental disorders in the Province.

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V. PRE-SCHOOL EDUCATION

Early child development (ECD) was defined in the White Paper on Education and Training (Department of Education, 1995) as the processes by which children aged 0-9 years grow and thrive. In the Guidelines for Early Childhood Development Services (Department of Social Development, 2006), it is defined in accordance with the White Paper's definition as "the process of emotional, mental, spiritual, moral, physical and social development of children from birth to nine years" (Department of Social Development, 2006, p.6). This portion of this report, however, will confine itself to those years prior to the child's entering formal schooling in Grade R, as the period from Grade R up will be covered in terms of school mental health services under Mental Health Services above.

> **"One cannot overstate the need to have a powerful and comprehensive pre-school strategy"**
>
> Cameron Dugmore, Provincial Minister of Education, Launch of Western Cape Education Department Literacy and Numeracy Strategy, Ratanga Junction, 24 July 2006.

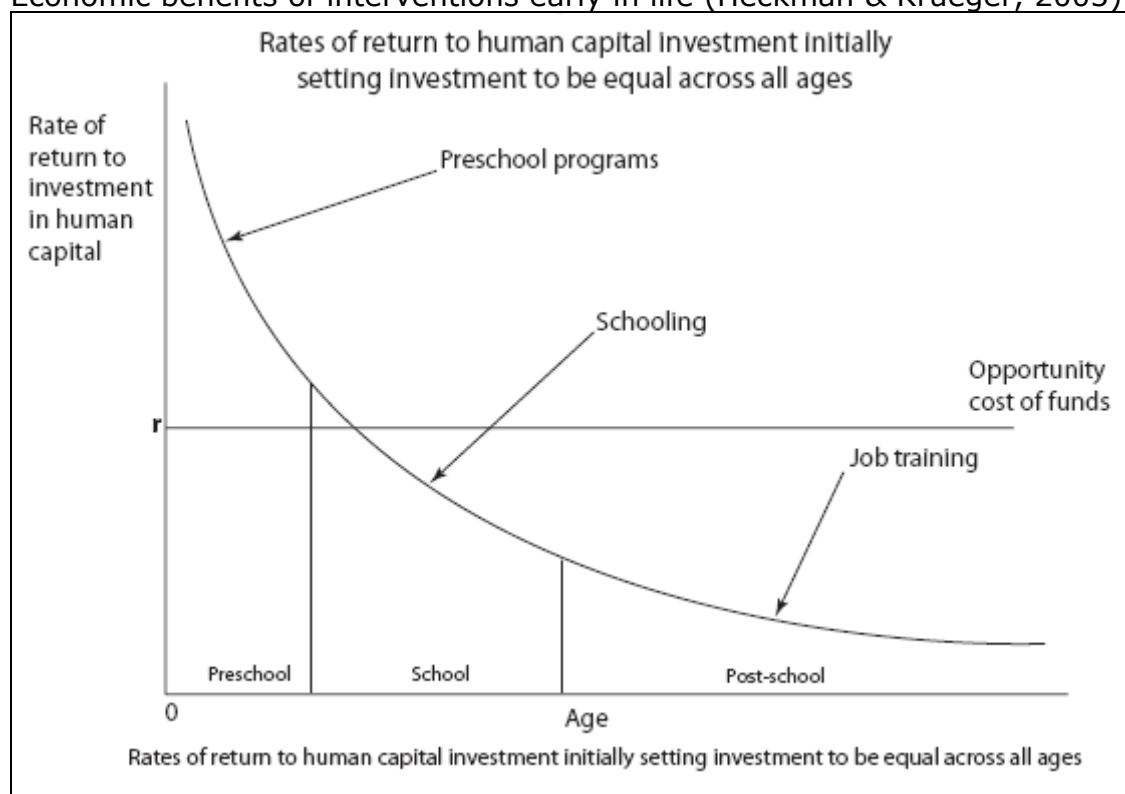## A. Nature of the evidence on interventions

Evidence for the effectiveness of interventions in early childhood is robust, coming from meta-analyses, systematic reviews of randomised controlled trials, and longitudinal studies. This part of the life-span has been extensively investigated, and the evidence from such reviews coheres around the finding that investment in early child development is both highly effective and cost-effective, in terms of reducing later-life problems that will burden not only the mental and physical health systems, but also other areas of society (for instance, in terms of costs of incarceration, substance abuse programmes, and poor employment records). The one concern is that most such studies have taken place in the USA, and there may thus be some limitations in generalisability. However, what is most likely is that it is the specific content of educational interventions that need adaptation for other contexts, and not the principles in terms of biological, intellectual, social and emotional competencies that develop in this period. In terms of mental health outcomes, the studies identified focus on a broad range of competencies rather than specifically on mental health problems (other than behavioural problems, which are investigated as outcomes). Although anxiety, depression and post-traumatic stress disorder do not appear to have been studies as outcomes of ECD programmes, the effects that are found are those that will be protective and decrease the impact of risk factors.

B. Evidence for interventions

Evidence for the effectiveness and cost-effectiveness of ECD interventions has been demonstrated in the economics literature. The 2000 Nobel prize winner

for Economic Sciences, economist James Heckman, demonstrated that interventions early in childhood yield economic returns far higher than interventions at any other time (Heckman & Krueger, 2003; Heckman, 2006). In specific terms, their work found that early interventions for disadvantaged children was more effective (in terms of outcome) and cost less, than later educational interventions, such as reducing pupil-teacher ratios, or adult interventions, such as job training. Early childhood is a sensitive period, and competencies become cumulative. Thus, without intervention, gaps between better and worse-off children widen over time; the earlier the intervention, the less it costs and the lower the gap (Heckman, 2006).

Economic benefits of interventions early in life (Heckman & Krueger, 2003)

Rates of return to human capital investment initially setting investment to be equal across all ages

A systematic review of randomised controlled trials of early childhood programs for low socio-economic status children ('children at risk') found that there is strong evidence for the effect of ECD programmes on cognitive outcomes which included increased IQ scores, increased school-readiness, lower retention rates (failing a grade) and reductions in the need for special education placements (Anderson et al, 2003). Reliable and valid evidence on the effects on social outcomes (including delinquency and substance abuse) and family outcomes was insufficient to draw conclusions from; more than 70% of the effects reported were in the cognitive domain with very limited evidence available in the other domains. However, as the authors point out, impaired cognitive ability and poor school readiness themselves place children at risk for behavioural problems and delinquency.

In accord with what was suggested by this review, another review does find that the higher a child's cognitive ability, the lower the likelihood of antisocial behaviour (Yoshikawa, 1995). This systematic review on the long-term effects of early childhood programmes on social outcomes and delinquency also found that a child's verbal ability decreased the negative impact of low socio-economic status on the likelihood of antisocial behaviour. Forty early childhood development programmes were identified, each of which had used a randomised control study design. The evidence from this review shows that early childhood education programmes typically improve the child's cognitive and verbal abilities. The majority of studies did not measure long-term antisocial outcomes, but of those that did, only programmes that incorporated a family support component as well as an early education component for the child, showed declines in long-term antisocial behaviour or delinquency. Family support components typically focus on providing support to the parents with respect to parenting skills or assisting parents to achieve their own occupational and educational goals. This component may be carried out in the pre-school setting or through home visiting. The author concludes that a combination of both ECD and family support is thus required to prevent delinquency.

While few of these reviews directly examine mental health outcomes other than behavioural ones, it should be noted that behavioural problems in children are typically associated with common mental health disorders such as depression (American Psychiatric Association, 1994).

The longitudinal results of the Chicago Child-Parent Centre (CPC) Preschool Program showed that preschool participation "was significantly associated with more years of education, … a higher rate of high school completion … and a higher rate of college attendance" (Ou & Reynolds, 2006). Males benefited more than females in terms of the impact of preschool education on high school completion. "Findings demonstrate that large-scale school-based programs can have enduring effects into early adulthood" (Ou & Reynolds, 2006).

These results were echoed in the High/Scope Perry Preschool Project, where the outcomes for a half-day preschool intervention for at risk 3-4 year-old children from impoverished backgrounds in the U.S, combined with weekly home visits, was associated with short term benefits, which included improved cognitive development, higher levels of academic achievement, better levels of social adjustment and lower levels of learning disability. Further long-term benefits were found with follow up to age 27. These included 40% reduction in arrests and 40% increase in employment and literacy rates. Adults were less likely to be dependent on welfare and displayed improved social responsibility (Schweinhart and Weikart, 1998). A cost analysis of this intervention showed that for the $1000 spent per child cost on the preschool intervention, over $7000-$8000 benefits were returned in terms of taxes paid and lower crime, justice and welfare system costs (Schweinhart and Weikart, 1998). In their review of preschool interventions, the WHO found evidence to support the long-term benefits of 'pre-school day care', which included increased opportunity for mothers' being in well-paid

employment, which is protective against poor mental health outcomes (Herrman, Saxena et al. 2005)

The WHO raises the issues about the questionable benefit of home-based interventions and parenting approaches in terms of their efficacious utilization of resources. The balance of benefits and harms of mothers in employment are affected by the availability and cost of childcare and their association with maternal employment, as well as parental preferences for family-oriented care, based on economic or social values. In their study on the impact of childcare on maternal employment, Hofferth and Collins note that mothers whose children were in informal care experienced greater employment instability, because informal care was less reliable than formal care. Other factors influencing maternal employment included flexibility and availability of child care establishments (Hofferth and Collins 2000). The WHO broadly suggest that interventions which impact positively on both the lives of children and the mental health of their parents have the potential to have longer lasting positive effects on the mental health of children (Herrman, Saxena et al. 2005).

In conclusion, there is strong evidence that access to early child development programmes improves cognitive abilities, which in turn affects a child's achievements and successes in the school environment and beyond, into adult life. The long-term impact of the benefits of preschool interventions is seen in reduced burden of societal cost, both in terms of positive mental health outcomes and economic gain. In terms of delinquency and substance abuse, a combination of ECD programmes and family support programmes is required to achieve declines in the rates of problems.

Conclusions
➢ ECD programmes improve cognitive abilities.
➢ Improved cognitive abilities in turn improve a child's chances of success at school and beyond.
➢ ECD programmes with a family support component also reduce behavioural problems in children.
➢ Competencies that are improved through ECD programmes are those that are protective against the development of mental health disorders.
➢ Early interventions are highly cost-effective when compared with later interventions.

What are the important elements that work in preschool interventions?

Quality

The WHO contends that some of the most effective intervention programmes which address risk and protective factors for mental illness are those which target the years of early childhood development, particularly in high risk groups, such as families of low socio-economic and educational status (World Health Organisation 2004). The review of ECD interventions above demonstrates that there is strong evidence that such interventions are protective against mental illness. Despite the evidence, issues surrounding

how, where and by whom young children should be cared for in the preschool years, continue to be debated extensively in many parts of the world (Zoritch, Roberts et al. 2000). Historically, these debates have concerned the tradeoffs between quality and cost (Scarr 1998).

Care outside of the home can take many forms. The WHO describe ECD in the broadest sense as that which incorporates reading programmes in libraries, health screenings in clinics, television programmes which teach language and reading skills, as well as socio-economic values, and organised recreation (Herrman, Saxena et al. 2005). The focus of this review is primarily on preschool interventions, and particularly how the quality thereof effects childhood development.

ECD care varies considerably, particularly in terms of quality of interventions. There is substantial evidence favouring a link between quality and improved developmental outcomes, and there is a growing awareness of the need to examine aspects of quality in light of socio-demographic and policy contexts (Montes, Hightower et al. 2005; Goelman, Forer et al. 2006). Quality in ECD is commonly measured by observation and interview, with the use of recognised assessment tools (Scarr, Eisenberg et al. 1994) The definition of quality in ECD interventions has evolved over the past thirty years to comprise two parts. First, "structural features" embody aspects of group size and teacher-child ratios, while "process features" constitute the types of interactions and experiences children have in such environments (Goelman, Forer et al. 2006). There some evidence to suggest that higher process quality in particular, is linked to improved socio-emotional outcomes (Montes, Hightower et al. 2005). Quality interventions increase educational efficiency, "as children will acquire the basic concepts, skills and attitudes required for successful learning and development thus reducing their chances of failure" (Department of Social Development 2006:18)

In a Canadian study of 326 classrooms in 239 child care centres (Goelman, Forer et al. 2006), a predictive model using psychometric rating scales determined that the following had a significant impact on the quality of a classroom learning environment:

➢ Teacher-child ratios:
➢ The structural quality of the classroom environment improved with each additional adult present in the room. The findings suggest that while a 1:4 adult to child ratio is considered the regulatory minimum, a 2:8 adult to child ratio is more beneficial because it provides teachers with the opportunity to discuss classroom challenges and leads to increased job satisfaction for teachers, which in turn improves the quality of their teaching.

➢ Level of teacher training is a significant predictor of process quality.

➢ Staff satisfaction is another predictor of process quality, as it was found that level of staff satisfaction was correlated with lower levels of

turnover, positive and committed attitudes and a better working and teaching environment for all.

➢ The operating auspice of the centre was shown to have an indirect, yet important impact on the quality of the intervention. It is acknowledged that many ECD centres operate on limited financial resources, hence careful utilisation of such resources in terms of staff remuneration and spending on child utilities are seen as an indication of a successful intervention. This has implications in terms of school fees and other sources of funding. The authors recommended that government should prioritise the funding of ECD programmes (Goelman, Forer et al. 2006).

Hofferth and Collins note that quality of ECD interventions affect maternal employment decisions through the weighing up of costs and benefits of work versus home time. High quality interventions impact on parents' employment decisions in developed contexts. For instance, it has been found that higher educator-child ratios have been associated with increased probability of a mother continuing in employment, in the knowledge that her child is getting sufficient individual attention (Hofferth and Collins 2000). The authors contend that quality interventions lead to increased stability of care, and less frequent change in care arrangements, which deceases insecure attachment, and is hypothesised to positively affect maternal employment stability. In their review, Hofferth and Collins report that mothers with children in poor quality care reported greater difficulty associated with continued employment (Hofferth and Collins 2000).

There are other factors which are important in measuring quality in ECD interventions. The Department of Social Development has developed a checklist which is used as a Quality Assurance measure in the assessment of prospective ECD centres. Aspects which are checked, include infrastructural aspects concerning premises and equipment standards, staff qualifications, managerial resources, and active learning resources (Department of Social Development 2006). The Department of Social Development associates the following factors with poor quality ECD services, which may constitute the closure of a facility:

➢ Unsafe infrastructure;

➢ Refusal to meet local authority stipulations;

➢ Placing the health of children at risk;

➢ Physical abuse of children;

➢ Insufficient or incapable personnel;

➢ A programme which is inappropriate or unstimulating;

➢ Discriminative practices which violate children's rights;

➢ Dysfunctional management.

The 2006 Department of Social Development Guidelines state the following as minimum requirements for ECD services:

> Buildings, equipment and play areas must be clean and safe;

> Food must be provided once per day by parents or service;

> Premises must be disability-friendly;

> Ill children must be cared for in a responsible manner;

> Systems must be in place for the efficient management of the centre;

> Privacy of children and families must be respected;

> Children must be given appropriate developmental learning activities and care in a culturally sensitive environment;

> Staff must be adequately trained;

> Parental involvement should be seen as an integral part of child care, and relationships between the service, parents and community should be nurtured.

Additional recommendations for monitoring and evaluating the quality of ECD programmes and for ensuring health child development more generally have been made by the Human Sciences Research Council (Dawes, Biersteker, & Louw, 2006).

Conclusions
> Quality of ECD programmes matters, in terms of the outcomes they achieve
> The structures of high quality ECD programmes generally include high teacher-pupil ratios, with more than one adult per classroom; well-trained teachers; satisfied teachers; and adequate funding.
> ECD programmes should at least meet the minimum requirements laid down by the Department of Social Development.

C. Existing interventions

The Government's commitment to ECD is set out in the White Paper on Education and Training (March 1995). ECD is defined as "the provision of physical, developmental and emotional, social, spiritual and moral development for children aged between zero and nine years" (Williams et al. 2001:9). A report on national ECD policies and programmes notes that, "The challenge of delivering quality services for all our young children requires cohesive, holistic and integrated efforts. This is well understood at policy level and by many departmental staff who are attempting to implement service delivery" (Department of Education 2001:23). This is based on evidence from the National ECD Pilot Project (1997-2000), which compared community-based sites with school-based Grade R and Grade1 classes with under-age learners. (Department of Education 2001:9). However, this report shows that

only one quarter of the community-based sites in the pilot was offering 'high' quality education at the time of the study (Department of Education 2001). At the time of writing, the Department of Social Development in the Western Cape is again conducting an audit of ECD facilities in the Western Cape. Preliminary results indicate that there are too few facilities to meet the need, and the majority of those that do exist are of poor quality.

In a report entitled, "The Nationwide Audit of ECD Provisioning in South Africa" (2001), the following was found:

- The majority of teachers involved in ECD have received their training from NGOs and are not qualified in terms of current Department of Education regulations.

- Almost half of the teachers included in the study earned less than R500-00 as a monthly wage.

- Racial inequalities are still significant in terms of quality ratings. White sites rated the highest over support, infrastructure, programme and educator indices.

There is a dearth of evidence six years on, which could assist in determining whether progress has been made in terms of the above findings, particularly in light of the 2006 Guidelines laid down by the Department of Social Development.

D. Recommendations

1. Quality ECD programmes urgently need to be developed in the Western Cape. Considerable work has recently been done on setting minimum standards for such programmes and for monitoring their achievement; what remains to be done is the establishment of sufficient programmes to meet the need for childcare.

2. Urgent roll-out to the most deprived areas as measured by the Multiple Deprivation Index is warranted.

3. One essential indicator of a quality programme is a high quality of teacher training. High-quality teacher training programmes should be developed.

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The term "recreation" is used in its broadest sense to include activities that are done in a person's 'free time' such as games, athletics sports, arts and crafts, drama, music, nature and outdoor activities, social activities and dancing. Recreation can be divided into commercial recreation (theatres, concert halls, amusement parks); community recreation which focuses on the family, the school or community activities; and therapeutic recreation for mental health. It is inevitable that overlap between these three types of recreation will exist.

The use of recreation is growing in importance as a factor of modern life to complement and balance paid and unpaid work related activities and as such provides a vital restorative function. Recreational activities and play are also considered vital for early childhood development. Article 31 of the Convention on the Rights of the Child, Ratified by South Africa in 1995,requires governments to recognise the right of children to "rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts" (United Nations, 1989).

Caldwell (2005) describes leisure as therapeutic where one of three effects can be identified: prevention of, coping with, and transcending negative life events. In *primary prevention* recreation or leisure activity can ward off poor health and risk behaviours before they occur (Caldwell, 2005). In *secondary or tertiary prevention,* leisure activities can be utilised as adjunctive treatment for mental illness, limit disability and prevent relapse.

In her review of studies evaluating the impact of leisure on mental health Caldwell (2005) describes various mechanisms through which leisure can improve mental health:

- Opportunity for social support, friendships, and social acceptance in leisure.
- Competence and self-efficacy derived from leisure participation.
- Experiences of challenge and being totally absorbed in leisure activity
- Self-expression, being self-determined and in control in leisure.
- Feeling relaxed, disengaging from stress, being distracted from negative life events through leisure.
- Ability of leisure to provide continuity in life after experiencing disability. (Caldwell, 2005, p. 17)

It is suggested that leisure influences health through the development of a range of competencies including social, behavioural, athletic, and scholastic. It is important to note, however, that not all leisure has a positive impact on health. Leisure time includes risks and opportunities (Caldwell, 2005). This is a particularly common problem during adolescence. Leisure can be a time of loneliness, substance use and inactivity. Achievement-oriented and social

leisure significantly predicts positive mental health, while uninvolving or passive leisure (e.g. watching television or being alone with one's thoughts) relates significantly to negative mental health outcomes.

A. Nature of the evidence

Far more research has been done on the effect of physically active interventions on mental health than the effect of non-physically active recreational interventions on mental health outcomes. Caldwell (2005) suggests that music appreciation, viewing aesthetic scenery on video and humour gained through recreation all improve mood and decrease anxiety.

However, from the literature review it is found that most of the interventions focussed on secondary or tertiary prevention with limited evidence for primary prevention. Durlak and Wells (1997) in their review highlighted that there was a need for primary prevention mental health programmes for children and adolescents. This is supported by this review as most of the studies relating to leisure activities and mental health are aimed at adults and the elderly.

This report has reviewed the evidence on the impact of recreational interventions on mental health. However, it needs to be acknowledged that good mental health may be the reason for participation in recreational activities. More research is needed to clarify this relationship.

B. Evidence of interventions

The evidence on interventions has been categorised as follows:

1. Physical activities/exercise
2. Meditation activities (including yoga & tai chi)
3. Arts and cultural activities
4. Environmental interventions

1. Physical activity/exercise

Physical activity is associated with the reduction of stress and decreased risk of developing clinical depression (Camacho, Roberts, Lazarus, Kaplan, & Cohen, 1991; Fox, 1999); (Weyerer, 1992). Fox (1999) indicates that experimental studies show that aerobic and resistance exercise are effective in treating depression and that the effect is on the same magnitude as psychotherapeutic interventions.

A meta-analyses conducted by Jorm, Christensen, Griffiths and Rodgers (2002) found Level 1[3] evidence that indicated that that the use of exercise for the treatment of depression is supported by the available evidence. According to Jorna, Ball, & Salmon (2006), physical activity improves mental health. Seven randomised controlled trials found exercise (jogging, running, walking, progressive resistance training, bicycling) affected the mental health of clinically depressed people more positively than the controls. Exercise was as effective as anti-depressants. After four months, relapses were significantly lower than in individuals who took anti-depressant medication.

Pennix et al. (2002) report a significant reduction of depressive symptoms among 439 older adults participating in an 18-month walking program, suggesting a possible antidepressant effect of physical activity. In addition, Babyak et al. (2000) showed that subjects with a depressive disorder who exercise are less likely to relapse after 10 months, particularly if they remain physically active during the follow-up period.

Exercise may also reduce mean depression and anxiety scores in the general population of children and young people. However, the studies are generally of low methodological quality and they are highly heterogeneous with regard to the population, intervention and measurement instruments investigated. When vigorous exercise was compared to low intensity exercise or psychosocial interventions no difference in anxiety and depression scores was found (Larun, Nordheim, Ekeland, Hagen, & Heian, 2006).

Exercises for the elderly aged 75-80 years and older also demonstrate an improvement in mental health. A randomised controlled trial, the UPLIFT pilot study, was used to determine whether progressive resistance training improves depressive status in older depressed patients assessed the feasibility of older depressed people attending a community-based program. The results indicate improvement associated with the number of exercise sessions completed (Sims, Hill, Davidson, Gunn, & Huang, 2006). It has also been demonstrated that strength and flexibility programmes in frail long-term care facility provide recreational and therapeutic benefits (Baum, Jarjoura, Polen, Faur, & Rutecki, 2003). Physical activity has also been shown to prevent cognitive decline in older community-dwelling women (Yaffe, Barnes, Nevitt, Lui, & Covinsky, 2001).

Given the social nature of certain sports (team sports), it is possible that certain types of physical activities may be more beneficial for mental health than others. A study by Eccles et al (2003) highlighted that involvement in team sport had both negative and positive effects. Involvement in team sport predicted greater involvement in risky behaviours however it also highlighted the positive influence of sport involvement. However, limited information existed on the effects of team sports and mental health.

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[3] Cochrane Review hierarchy of evidence: Evidence form a systematic and quantitative overview (meta-analysis) or at least two (large) RCTs of high quality.

2. Meditation Activities

According to Jorm, Christensen, Griffiths, & Rodgers (2002), there are many types of meditation, but all involve focusing attention on something, such as a word, a phrase, an image, an idea or the act of breathing. Commonly used forms of meditation include yoga, relaxation response and meditative prayer (Arias, Steinberg, Banga, & Trestman, 2006). For some people, meditation is a spiritual activity which can complicate the research in this area; evidence of its effect on mental health needs to be based on "non-cult, faith-free and specifically designed methods" (Krisanaprakornkit, Krisanaprakornkit, Piyavhatkul, & Laopaiboon, 2006, p. 9). Relaxation therapy is used to counter the stress response of anxiety. Meditation is a method of promoting relaxation.

2.1. Meditation

The Cochrane systematic review on meditation practices for treating anxiety disorders describes meditation as producing relaxation and an altered state of consciousness (Krisanaprakornkit, Krisanaprakornkit, Piyavhatkul, & Laopaiboon, 2006). The outcome of a study comparing meditation, muscle biofeedback and relaxation training demonstrated significant improvement in situational anxiety symptomatic distress, social functioning and relations with their families (Krisanaprakornkit, Krisanaprakornkit, Piyavhatkul, & Laopaiboon, 2006). The small number of studies included in this Cochrane review does not permit any conclusions to be drawn on the effectiveness of meditation therapy for anxiety disorders.

In another systematic review, Arias, Steinberg, Banga and Trestman (2006) also conclude that meditative practices have a beneficial effect on the mental health of people in the treatment of nonpsychotic mood and anxiety disorders and in illness where mental distress plays a major role in the pathophysiology, or morbidity and perhaps mortality. For example, the relaxation response produced reduced the psychological stress related to women's premenstrual and perimenopausal symptoms (Arias, Steinberg, Banga, & Trestman, 2006).

In mental illness, meditation is usually advocated for "stress" or anxiety rather than depression. However, because anxiety is often comorbid with depression, it could have a therapeutic role (Jorm, Christensen, Griffiths, & Rodgers, 2002).

2.2. Yoga

Practitioners of this ancient Indian system of health care use breathing exercises, posture, stretches, and meditation to balance the body's energy centres. The findings of studies on healthy people indicate that yoga interventions improve life satisfaction scores, increase extroversion, lower levels of negative affect, and increase levels of well-being and self-reported health (Collins, 1998). In a comparative study with exercise, yoga resulted in higher perceptions of mental and physical energy and feelings of alertness and enthusiasm. In a comparative study with aerobic exercise and a control group, yoga resulted in improved sleep patterns, energy level, mood, social life and life satisfaction (Collins, 1998).

Yoga has been used in combination with other methods of treatment for depression, anxiety, and stress-related disorders. Jorm, Christensen et al. (2002) identified two randomised controlled trials that have been carried out on the use of yogic breathing exercises in depression. Both showed a positive effect on depressive symptoms; in one of these studies, hospitalised patients with depression were randomly assigned to receive training in yogic breathing, electroconvulsive therapy (ECT) or imipramine. All groups improved and yogic breathing was found to be as effective as imipramine.

2.3. Tai Chi

Tai Chi is a form of exercise incorporating breathing control with a philosophical basis. A review done by Li et al (2001), highlighted the beneficial effects of Tai Chi on health and concluded that Tai chi as an exercise can be used for health promotion and rehabilitation especially in the maintenance of mental health. A 12-week Tai Chi exercise intervention among ethnic Chinese people with cardiovascular disease risk factors living in the United States of America resulted in improved mental health (Taylor-Piliae, Haskell, Waters, & Froelicher, 2006). Another study demonstrated improve self-rated sleep quality through a 6-month, low- to moderate-intensity Tai Chi program (Li, Hong, & Chan, 2001). Currently a study is being conducted by Zeeuwe, Verhagen et al. (2006) in the Netherlands looking at mental health as a secondary outcome measure using Tai-Chi as an intervention programme in older people.

Conclusion
  ➢ There is insufficient research on the effects of meditation, yoga and tai-chi on mental health, however research conducted to date consistently shows benefits to mental health and reductions in mental illness

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3. Arts and culture and mental health

"The hospital helped me with my illness, but the arts project *changed* my life" (Staricoff, 2006, p. 118). The arts have been used in health promotion, as therapeutic interventions, to tackle social exclusion, and as a medium for promoting public health to develop social capital (Hamilton, Hinks, &

Petticrew, 2003). South (2004) reports that there is some evidence that participation in arts projects has a positive impact on the mental health of participants. It raises self esteem, improves emotional literacy, and reduces social isolation.

There are a number of studies that report on the power of the arts in reducing stress, anxiety and depression. However, rigorous studies that include control or comparison groups have been difficult to perform (Hamilton, Hinks, & Petticrew, 2003; Staricoff, 2006). It is even more difficult to link specific aspects of arts and cultural interventions to specific health outcomes of communities or neighbourhoods such as the development of social capital (Hamilton, Hinks, & Petticrew, 2003).

Arts in health include active participation in creative activities (such as dancing) – a process based intervention – and more passive audience or viewer activities (such as paintings hung on hospital walls) – a product-based intervention (Argyle & Bolton, 2005).

3.1. Multi-faceted 'arts' interventions

In terms of multi-faceted arts interventions the evidence indicates positive mental health outcomes. A review of three interventions in the Bradford District (on a housing estate with young people, in a school, and with parents, children and child care workers) that included drama, music, dance and art indicated improved self esteem, reduced isolation and skills development (South, 2004).

In Scotland, participation in cultural and sporting activities has been shown to result in the gaining of new skills, improve informal and formal learning, increase self-confidence, self-esteem and a feeling of self-worth, improve or create social networks, enhance quality of life, promote social cohesion, personal and community empowerment, improve personal and local image, identity and a sense of well-being (Ruiz, 2004). The review of the Scottish Executive concluded that arts projects based in hospitals reduce stress levels and improve mood, in particular for people with mental illness and special needs (Ruiz, 2004).

In contrast to these reports, a review of 64 reports of community-based arts in health projects in the UK by the NHS Health Development Agency and the Centre for Arts and Humanities in Health and Medicine (CAHHM) concluded that there was limited information on the extent to which the projects achieve their aims.

In South Africa, mass media intervention such as "Soul City" uses art, theatre and music as a medium to improve sexual health (Soul City, 2005). Similarly art, theatre and music can be used to improve mental health.

3.2. Art (painting, drawing, and sculpture)

Argyle and Bolton (2005) report on a community art project in Rotherham in the UK for three groups: single parents; people experiences problems

including unemployment or drug and alcohol abuse; and teenage parents . Their findings demonstrate that participants find art therapeutic and relaxing. Participants gained skills and a sense of achievement, promoting feelings of confidence and self-esteem. Social relationships between group members were strengthened. Additionally local artists became involved with the community groups.

Art therapy, also called creative art therapy, uses the creative process to help people who might have difficulty expressing their thoughts and feelings and is different to general art and culture projects (Everitt & Hamilton, 2003). Art on prescription is a model, pioneered in Stockport, UK, where GPs referred patients to local arts organisations. Findings suggest this leads to improved mental health

3.3. Dance

It is postulated that dance can empower individuals and communities. Those who are recovering from physical, sexual, or emotional abuse may find these techniques especially helpful for gaining a sense of ease with their own bodies. The underlying premise to dance and movement therapy is that it can help a person integrate the emotional, physical, and cognitive facets of 'self' (Jorm, Christensen, Griffiths, & Rodgers, 2002). Jorm, Christensen, Griffiths, and Rodgers (2002) report that people experience better moods on days they participate in dance and movement. This could be due to effect of the physical activity which is recognised as affecting mental health. The effects of expressing feelings through dance and movement have not been determined. Consequently, the particular effects of dance and movement on depression have yet to be adequately.

3.4. Music

Music or sound therapy has been used to treat disorders such as stress, grief, depression and anxiety (Hanser and Thompson, 1994), schizophrenia (Tang et al 1994), and autism in children (Whipple , 2004). Randomised controlled trials of the acute effect of music on mood in depressed patients have found no effects (Field et al 1998 and Lai 1999). However, a study conducted by Tang et al (1994) indicated that music therapy had an effect on improving social isolation and decreased negativity. As an inexpensive method of therapy, the authors strongly recommended music therapy. Solo singing, choral singing has a positive effect on mood (Valentine & Evans, 2001).

> **Conclusion**
> Evidence in this area is limited however studies *suggest* the following:
> - Passive involvement with art may have mental health benefits e.g. art in hospitals
> - Participation in arts projects may have mental health and social capital benefits at the group and individual level
> - Evidence on the mental health benefits of music and dance is inconclusive

4. Environmental factors

Healthy neighbourhoods are defined by Everitt & Hamilton (2003)as having six characteristics. They are: safe, clean, inclusive, confident, creative and connected. Many factors in the neighbourhood built environment have been shown to impact on mental health as discussed in the section on housing above. Aspects of the built environment have been related to physical activity in adults, namely proximity and ease of access to recreational facilities, as well as the 'walkability' of an area (Norman et al 2006).

Parks and green spaces are important outdoor resources that can improve mental health. In Brooklyn, NY, USA women indicate that nature stimulates the senses and restores mental capacities. They identify parks as places where they can engage in physical activities, where they have the freedom to wear comfortable clothes. Toilet facilities in the park are an added positive factor. Negative factors in the park environment include concern for safety due to traffic or wooded areas. (Krenichyn, 2006).

Policies related to the environment can facilitate recreation. Kahn et al. (2002) state that environmental and policy intervention can increase physical activity. This includes the creation of, or enhanced access to, places for physical activity. They emphasise it needs to be combined with information related to these outreach activities. The USA and Switzerland have similar strategies for achieving clear waters, while the protection of scenic views is approached very differently (Riediker & Koren, 2004).

Patterson and Pegg (1999) state that a lack of leisure skills and restricted leisure opportunities can lead to leisure boredom. Leisure boredom is a state of under-stimulation, under-arousal, lack of momentum or lack of psychological involvement associated with dissatisfaction in the task situation. This may lead to delinquency and drug use in the free time. Rancourt in Patterson and Pegg (1999) indicates that the most important motivation for substance use is the need to relieve boredom. Involvement in active leisure activities shows a consistent positive relationship to reduced drug and alcohol use. The adolescent needs opportunities to experience the freedom to choose and feel in control.

Financial subsidy to recreational activities may impact on their access and use. A randomized control trial in Ontario, Canada proved that provider-initiated and subsidized methods of recreation lower the use of healthcare and social services, than children who used self-directed and self-financed methods of recreation. They had had lower use of physician, physiotherapy, probation, children's aid society, social work, psychologist and services in comparison with those in the non-subsidized group. The subsidized group also proved to be beneficial for the parents as well. The use of health and social services, by the parents in the subsidized group, was also decreased in comparison with those of the self-financed group. This group also proved to have improvement of the global socioeconomic status, with a 10% greater exit from the social assistance program within 1 year (Ott et al., 2006).

> **Conclusion**
> ➢ Well maintained, safe parks with toilet facilities provide the opportunity to engage in physical activity and social interactions which affects mental health
> ➢ Walkability of neighbourhoods is important for recreation activities
> ➢ There is some evidence that policies related to the environment have an impact on mental health through increasing physical activity
> ➢ Evidence suggest that physical and financial access to recreational facilities reduces leisure boredom and can reduce substance abuse

C. Existing programmes in the Western Cape

The National Department of Sports and Recreation has a 'mass participation programme' which aims to increase the numbers of people participating in sports and recreation. This programme, although mentioning recreation, tends to focus primarily on sports as a means of recreation and not others mentioned in this review e.g. yoga and dance. This is a major gap in terms of recreation, rather than sport, as there will be many individuals who may wish to take part in physical activity but lack the competence and/or self-confidence to take part in competitive team sports. These groups are likely to be those who are overweight, depressed, anxious, physically ill and socially uncomfortable and as such represent those most at risk for mental (and physical) illness.

The 2005/2006 Annual Report of the National Department of Sports and Recreation highlights lack of facilities for 'mass participation' which will clearly impede participation in sports. If this is true for sports facilities, it is likely to be more so the case for other alternatives such as dancing and art.

The Department of Culture, Sport and recreation and Sport and Recreation South Africa have initiated programmes to promote indigenous games. Indigenous games include activities such as jukskei, morabaraba, kho kho, dibeke, intonga, ncuva and kgathi. All these games are played by both males and females either as individuals or mixed teams. There is no evidence of the effects of these games on mental health as this has not been researched but it is plausible that indigenous games would enhance cultural identities as well as provide physical activity.

D. Recommendations

1. Promotion and support for physical activity and sport

- As already done in the "Vuka South Africa" campaign: 30 minutes per more of moderate activity such as brisk walking on 5 or 6 days each week
- Sports of interest should be identified by the community in question
- Funding for the construction of sports facilities, staffing and the necessary equipment and maintenance thereof

- Include non-competitive sports to accommodate people without high levels of athleticism e.g dancing rather than soccer
- Settings and type of activities for each age-group in Table 13 below

2. Promotion and support for other recreational activities
(e.g. arts projects, pool, chess, theatres, indigenous games)
- Identify and evaluate existing community arts or leisure projects; partner with these organisations
- Projects of interest should be identified by the community in question
- Projects should simultaneously seek to 'renew' the neighbourhood (e.g. artworks on walls etc.)
- Projects should seek to provide potentially commercially viable skills e.g. ceramics
- Funding for the construction of arts and recreational facilities, staffing and the necessary equipment and maintenance thereof
- Settings and type of activities for each age-group in Table 13 below

3. Design recreational projects to increase social capital
- Promote group activities
- Encourage collaborations between community groups, non-governmental organisations and government
- Arrange for matches or competitions across different suburbs
- Identify, evaluate and support existing community sports and arts projects
- A directory of all recreational programmes for all age groups and for special groups at risk is needed
- Establish referral networks for recreation programmes to facilitate referral of individuals from health centres, schools, correctional facilities etc.

4. Evaluate the mental health outcomes of existing sports and recreation programmes
- This should ideally be done using Randomised Controlled Trial designs (where possible); alternatively before-after studies could be done

5. Protect and promote green and natural spaces
- Policies to protect the rivers, vleis, dams and the sea in the Western Cape; protect scenic views on the mountain passes.
- Limit urban sprawl
- Ensure access to parks

6. Provide affordable and safe transport to recreational facilities or areas

7. Target sports and recreation programmes at high risk groups

- Youth
- Single parents
- People living with HIV/AIDS
- People with chronic illness/disability (physical/mental)
- New mothers
- Teenage mothers
- Elderly
- Unemployed
- People with mental illness including substance abusers

Settings: Recreational activity interventions can be implemented in a variety of settings. The most common settings for interventions are the home, the school, clubs, the workplace and in the community. Recruitment of individuals should also occur in other settings however e.g. health facilities, social assistance recipients etc.

Table 17: Recreational activities to improve mental health in the Western Cape Province

Group	Setting	Activity	Suggested dept to take responsibility	Other organisation	Barriers to overcome
Young children	Indoors Home	Play	DoSD Local municipality DCAS		Safety Poor physical environment Financial constraints
	Outdoors Parks	Play	Parks* Safety** DCAS		Challenges to communication between government departments
Children	Indoors Home School Clubs/indiv/g roup	Play Lifeskills: physical ed Drama Art	WCED DCAS	SoulCity Children's Resource Centre Child-to-child LoveLife Soul Buddyz Club	
	Outdoors School Parks Clubs/indiv/g roup	Lifeskills: physical ed Sports	WCED Parks Safety DCAS	Active soccer club Right to Play South African Schools in Motion	
Adolescent	Indoor School Clubs Community Halls	Lifeskills: physical ed Sports Drama Art	WCED Safety DCAS	SoulCity Children's Resource Centre Child-to-child LoveLife Soul Buddyz Club	
	Outdoor Clubs/indiv/g roup Parks Pavements Mountain Beach/sea/vl ei Dams	Play Sports: running, soccer, swimming, hiking etc Drama Meditation Yoga Aikido	Parks Safety DCAS	Active soccer club Crysalis Academy Healthnutz South African Schools in Motion	

- Mental health promotion aims to promote positive mental health by increasing psychological well-being, competence and resilience, and by creating supporting living conditions and environments

* Parks= Local Government City Parks and Nature Conservation Directorate
** Safety= Department of Community Safety
***DCAS= Department of Cultural Affairs and Sport

Group	Setting	Activity	Suggested dept to take responsibility	Other organisation	Barriers to overcome
Young adults	Indoor Home Clubs	Drama/theatre Meditation Art Dance Music Tai Chi Yoga Aikido	DCAS	Ipeleng Performing Art LoveLife Peninsula Youth Association	Safety Poor physical environment Financial constraints Challenges to communication between government departments
	Outdoor Clubs/indiv/group Parks Pavements Mountain Beach/sea/vlei Dams	Participation in sports: running, soccer, swimming, hiking etc	DCAS	Laureus Sport for Good Foundation	
Young employed adults	Workplace Indoor Outdoor	Participation in sports: running, soccer, swimming, yoga	DCAS Department of Labour	Transport Parks	
Middle-aged adults	Indoors Halls Religious centres Library Shopping centres Community health centres Theatres	Participation in: Meditation Art therapy Dance Music Drama/theatre Yoga Tai Chi	DCAS		
	Clubs Outdoors Parks Pavements Mountain Beach/sea Dams/rivers Religious attendance	Participation in sports: walking Running Cycling		Transport Parks	
Elderly	Indoor	Meditation Tai Chi Music Art	DCAS		
	Outdoor	Participation in sports: walking			

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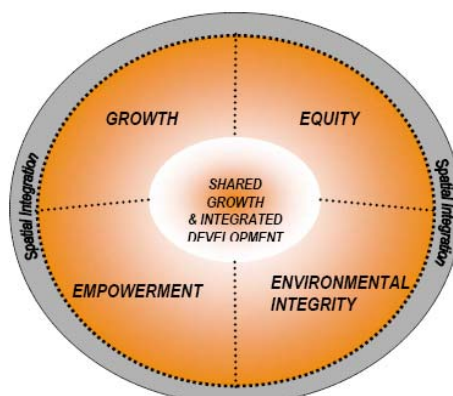
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IV. Relationship of interventions to development: *iKapa Elihlumayo*

Until recently, health has been viewed predominantly as an expenditure item with few "returns" and health improvements arising from, rather than contributing to, economic growth (WHO, 2006). The WHO Commission on Macroeconomics and Health was established in 2000 to interrogate these assumptions and has ably demonstrated that investment in health is a key engine for economic development and poverty alleviation. For example, it is estimated that a six fold return would be expected from investments in a set of essential health interventions (WHO, 2006). These findings are consistent with the work of development economists who have found that "small improvements in life expectancy can have a large effect on income, education and democracy" (Fielding, 2002).The relationship of health to human development is self-explanatory and is reflected in the inclusion of health indicators in the Human Development Index and Millennium Development Goals.

In light of these findings, the recommended interventions were considered in the context of iKapa Elihlumayo. The Provincial Growth and Development Strategy (PGDS) aims to develop the Western Cape into a place where" all residents will enjoy a quality of life characterised by greater levels of equality, improved access to economic and social opportunities, assets and resources and healthy living environments that foster well-being" (PGDS 2006, p21). The strategy aims to achieve these goals through shared growth and integrated development; the four interdependent elements of the iKapa Elihlumayo development strategy are growth, equity, empowerment and environmental integrity as shown in Figure 12 below.

Figure 12: Core elements of iKapa Elihlumayo

(Source: The Department of the Premier, PGWC: 24)(back to summary)

According to the PGDS, Growth refers to a sustainable expansion of the GDP through growing the regional economy, diversifying the economic base and reducing economic volatility. Equity will be achieved through securing basic human rights (including socio-economic rights) and enhancing access to

economic opportunities and assets. Empowerment involves redressing historical disadvantage in access to economic and social resources such that social cohesion and political participation is enhanced. Environmental integrity requires that development remain within the "carrying capacity" of the environment and that natural resources be protected (Dept. of Premier, p26-27).

The direct impact of implementing the interventions as well as the impact of the expected improvement in mental health on these four aspects of development is shown in Table 18 below.

Table 18: The impact of recommended interventions and mental health outcomes on the four principles of Shared Growth and Integrated Development

Interventions	Growth	Equity	Empowerment	Environmental Integrity
Multiple Deprivation	✓	✓	✓	✓
Substances of Abuse	✓	✓		
Pre-school	✓	✓	✓	
Trauma	✓	✓	✓	
Recreation	✓	✓	✓	✓
Mental Health Services	✓	✓	✓	
Outcome				
Improved mental health	✓	✓	✓	

The Provincial Growth and Development strategy also highlights eight strategic outcomes as shown below.

The eight strategic outcomes of the PGDS

Actions to achieve iKapa Elihlumayo should demonstrate the ability and means of addressing the eight strategic outcomes:

2.1 Broadening economic participation through targeted skills development and higher rates of human, infrastructural and financial investment.

2.2 Efficient 'connectivity infrastructures' to stimulate and sustain economic growth (transport, energy and ICT).

2.3 Effective public and non-motorised transport that provide access to all citizens of the Province, especially the poor and those disconnected from opportunities.

2.4 Liveable communities that foster/nurture the well-being of all residents (consistent with the ideals of sustainable human settlements).

2.5 Resilient and creative communities that are interconnected through webs of social solidarity (bridging social capital).

2.6 Greater spatial integration embedded in a drive to protect and develop public places[39] and the natural resource base (about overcoming apartheid spatial legacies).

2.7 A culture of tolerance and mutual respect that harnesses the creativity/innovation dividend that stems from dealing explicitly with social-cultural differences and unequal power relations.

2.8 Effective governance institutions which are able to harness the diverse energies of multiple interest groups and role players towards shared goals of the PGDS.

(Source: The Department of the Premier, 2006:66)

The impact of implementing the recommended interventions on these outcomes is illustrated below in Table 19.

**Table 19: The impact of recommended interventions
on the eight strategies of iKapa Elihlumayo**

Intervention Group	Strategy 1: Economic Participation	Strategy 2: Connectivity infrastructures	Strategy 3: Effective transport	Strategy 4: Liveable Communities	Strategy 5: Resilient communities	Strategy 6: Spatial Integration	Strategy 7: Tolerance, respect for diversity	Strategy 8: Effective governance institutions
Multiple Deprivation	✓	✓	✓	✓	✓	✓	✓	To be determined
Substances of Abuse	✓			✓	✓		✓	To be determined
Pre-school	✓			✓	✓		✓	To be determined
Trauma	✓			✓	✓		✓	To be determined
Recreation	✓	✓	✓	✓	✓	✓	✓	To be determined
Mental Health Services	✓				✓		✓	To be determined

In both these tables it is evident that the interventions themselves as well as the expected improvements in mental health would contribute to realising the imperatives of iKapa Elihlumayo. As such, interventions should be targeted to areas with the greatest need for development.

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V. Implementation

i. Integrating interventions in multiply deprived settings

While the recommended interventions can be adopted as 'stand alone' interventions, attempting to integrate some of these interventions in high risk areas should be considered. It is important to recognize that the most vulnerable groups in the Western Cape are those who experience multiple dimensions of poverty or deprivation and as such, multi-faceted interventions are likely to be the most effective. An example of how interventions could be integrated is presented in Diagram 11. Other Burden Of Disease interventions could be added to the 'tool box'.

Diagram 11. Example of how interventions can be integrated in multiply deprived areas

ii. Sustainability

The definition of sustainability contains several elements (Hawe, Ghali, & Riley, 2005):
- Effect:
    - Whether the initial effects in the original target group are maintained over time;
    - Whether the original effects are repeated in subsequent cohorts entering the programme.
- Effort:
    - Whether the effort required keeping the programme going is maintained.

All these elements of sustainability are important. While the evidence of what makes a programme sustainable is somewhat mixed, the following have emerged as important elements (Hawe et al., 2005):
- There is evidence that the programme is effective. This speaks to the need to monitor and evaluate programmes. The achievement of outcomes also needs to be made clear and visible (and if it is not effective, it should be stopped).
- Consumers, funders and decision-makers are involved in its development, and the programme has community champions who would decry its discontinuation. Put another way, what is driving the programme is community needs, its value and mission fit well with the community, and it has been adapted to local needs and preferences.
- The host organization provides real or in-kind support from the outset.
- The potential to generate additional funds is high.
- The host organisation is "mature" (stable and resourceful).
- The programme and host organisation have compatible missions.
- The programme is not a separate "unit" but instead its policies, procedures and responsibilities are integrated into the organisation, and the programme itself can be integrated with other programmes of the host organisation.
- Someone in authority (other than the programme director) is a champion of the programme at high levels within the host organisation. This champion needs to ensure endorsement of the programme, and s/he must him/herself be in a strong and stable position within the host organisation.
- The programme has few rival providers that would benefit from the programme discontinuing.
- The host organisation has a history of innovation.
- Early on, discussion about sustaining the programme has been initiated with all stakeholders, including community members.
- As a part of programme design and implementation (i.e., early in the programme's history), a consensus-building process has been developed, for resolving potential differences between different stakeholder needs (e.g., community, funder, technical expert, policy-maker).
- A working group should be developed to formalise and implement a sustainability plan. Such a plan might begin (even before the

programme is first implemented) with an assessment of local resources and potential locations for the programme. It should consider a wide range of options, including scaled-down versions of the programme, and have clear strategies in place for (gradual) financial self-sufficiency.

- Finally, intentions of those designing and implementing the programme should be transparent.

iii. Monitoring and Evaluation

Monitoring and evaluation is a key part of any system change. There are several reasons to monitor: firstly, monitoring provides good data to influence policy development, and to monitor the outcomes, effectiveness and efficiency of social programmes; without such data, decision-makers do not have the information they need for policy design or resource allocation (Dawes & Bray, 2007). Secondly, in particular, the evaluative function of a good monitoring system allows decision-makers to determine whether a programme was actually implemented, was implemented as intended, and – if those requirements were met – whether it is effective. Indicators should cover the following:

- **Prevalence of mental disorders (surveillance)**: this indicates how large the problem is, and will assist in determining how many resources should be allocated to it. Data should be disaggregated by key variables such as age, gender, and the small geographical area in which it occurs. Disaggregating the data will allow the identification of those most at risk, and will enable decision-makers to identify where resources are most needed (Dawes, Willenberg, & Long, 2006).
- **Risk factors**: For instance, to extend the example above, in neighbourhoods where the childcare burden is high, children may be at risk of maltreatment (Ward, 2007), and this indicator could also be used to target resources such as ECD centres, which would reduce the burden on young women through providing childcare.
- **Input, process and output indicators**: This would include
  o Whether programme elements are in place: For instance, counting ECD centres in specific neighbourhoods and matching them against those planned, will indicate whether policies are being carried out. In terms of mental health programmes, indicators should be developed that convey information about whether the programme was delivered as planned, by whom, whether it reached the appropriate target audience. With regard to delivering a group anxiety management programme in a school, for instance, the psychologist in charge of the programme could be asked to complete information about dates and times that group sessions were held; how many group sessions were held; and how many children attended the group.
  o Service Access: Indicators should also describe elements of service access, to indicate whether there are groups that are

not being reached. For instance, the numbers of children attending ECD centres could be weighed against the number of children in a particular area, to assess whether the need is being met (Dawes, Biersteker, & Louw, 2006).

  o Programme quality: This can also be assessed through establishing minimum standards for the service, and assessing how many services meet those benchmarks.

- **Outcomes**: Outcome indicators should be developed for each intervention, to determine whether it is delivering the desired results. Measurement of mental health outcomes is is essential to ensure that programmes that are well designed but of low impact are not sustained simply because they are well designed (Hawe, Ghali, & Riley, 2005). Identifying the most appropriate mental outcomes to measure and when these should be measured is complex; experts in the field should be consulted in this regard.

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Appendix 1

Literature review of the socio-structural determinants of mental health

Contents

1. Structural Factors

1.1. Formal education [Back to Index](#)

Evidence for a protective association between increased number of years of education and mental illness is readily available. Patel et al (1999) investigated the prevalence of mental illness across five studies in developing contexts (sample population derived from primary care attendees and community samples in Goa, Harare, Santiago, Pelotas and Olinda), and results showed that low levels of education had a strong association with common mental disorders (Patel, Araya, De Lima, Ludermir, & Todd, 1999).The authors make particular note of the need to address school drop out rates, and the promotion of schooling beyond primary level, in order to provide individuals with greater choices and opportunities (Patel, Araya, et al., 1999).

In their unpublished work, Chevalier & Feinstein (2004) investigate whether the relationship between education and depression is causal, based on the common finding that more educated persons are less likely to suffer from depression. Data was collected from the National Child Development Survey, a UK-based longitudinal study of all children born in a specific week in 1958 who were followed up in adolescence and at ages 23, 33 and 44. Their findings indicate a strong association between depression and educational level; this relationship was non-linear however with the greatest effects at the lowest levels of education. The highest levels of education were associated with a decrease in depression for women, but a relative increase in depression for men which the authors postulate to result from occupational stress. Significantly, the effect of education on depression remains after adjustment for all possible confounders and is only partially explained by income and employment. The relationship is diminished but persists when hypothesized mediators are added to the model.

Conclusion: There is strong evidence for a causal relationship between level of formal education and depression which is supported by cross-sectional evidence in developing countries.

> - **Lower levels of education are associated with higher rates of common mental disorders.**
> - **This association is likely to be causal**
> - **The association cannot be explained by income or employment status**.

1.2. Pre-school education Back to Index

The Consortium for Longitudinal Studies (1975) assessed the long-term effects of pre-school and infant education programmes on children from families of low SES in the US. The study was derived from data from 11 'education projects', which constituted the consortium study (baseline data collected from 1962-72, follow up in two waves, before and after 1976) that was followed up over approximately 14 years. There were three sub-categories of intervention – home-based, centre-based and a combination of both programmes, which targeted children under the age of 4 years (Lazar, Darlington, Murray, Royce, & Snipper, 1982). The "results show that early education programs for children from low-income families had long-lasting effects in four areas: school competence, developed abilities, children's attitudes and values, and impact on the family" (Lazar et al., 1982). Therefore, there is evidence of two positive effects of preschool intervention: first that of school competence (educational achievement a protective factor in itself) and second, improved self-esteem. A major limitation of this study is that only a univariate analysis was performed, so it is difficult to isolate particular exposures which contribute to the outcome and one cannot rule out confounding.

Anderson et al. (2003) in their excellent systematic review of randomised controlled trials of early childhood programs for low socio-economic status children ('children at risk') found 57 intervention studies, but excluded all but 16 of these due to poor validity, duplication or lack of an examination of the outcomes of interest (cognitive, social child health and family outcomes). Their review found that there is strong evidence for the effect of ECD programmes on cognitive outcomes which included increased IQ scores, increased school-readiness, lower retention rates (failing a grade) and reductions in the need for special education placements. Reliable and valid evidence on the effects on social outcomes (including delinquency and substance abuse) and family outcomes was insufficient to draw conclusions from; more than 70% of the effects reported were in the cognitive domain with very limited evidence available in the other domains, however the authors point out that cognitive ability and school readiness may themselves be predictors of behavioural problems and delinquency. The authors also caution that all the articles that met their inclusion criteria were studies based in the USA and as such one must consider the generalisability of the findings.
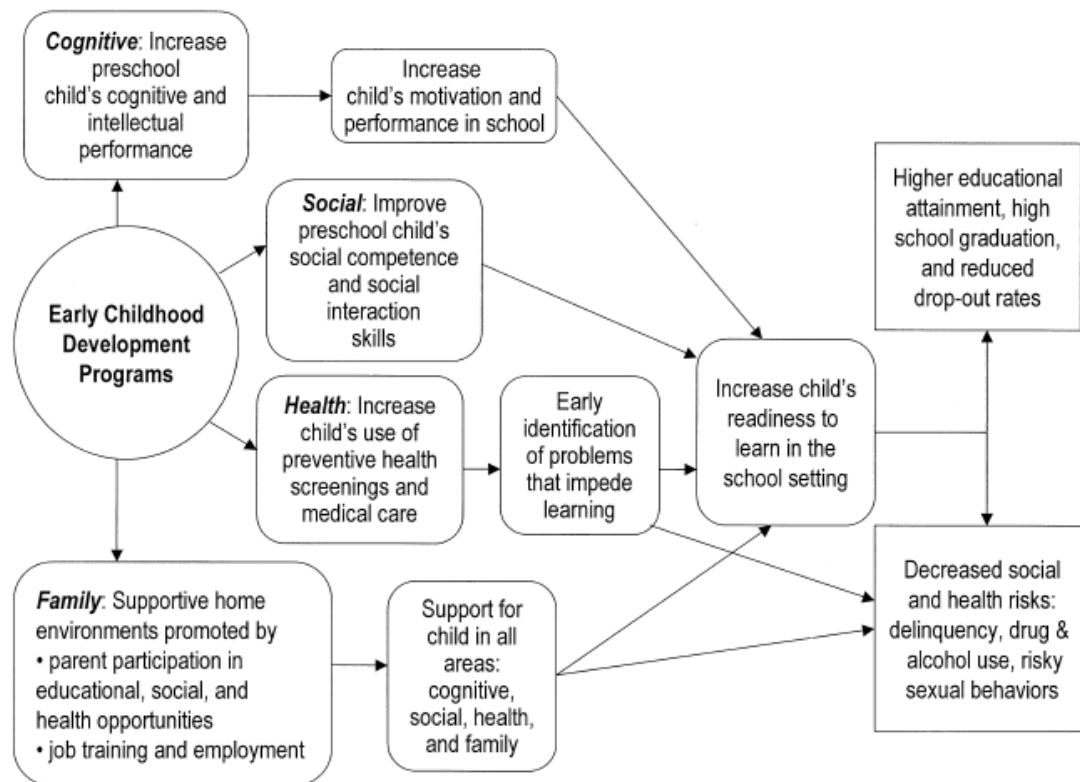
Figure 1. Analytic framework used to evaluate the effectiveness of programs for improving children's readiness to learn and preventing developmental delay.

Yoshikawa (1995) undertook a systematic review on the long-term effects of early childhood programmes on social outcomes and delinquency and found that a child's cognitive ability was negatively associated with antisocial behaviour, but also that a child's verbal ability decreased the negative impact of low socio-economic status on the likelihood of antisocial behaviour. 40 early childhood development programmes were identified that used a randomised control study design and the evidence of this review shows that early childhood education programmes typically improves the child's cognitive and verbal abilities. The majority of studies did not measure long-term antisocial outcomes, but of those that did, only programmes that incorporated a family support component showed declines in long-term antisocial behaviour or delinquency. The author concludes that a combination of both ECD and family support is thus required to prevent delinquency.

The longitudinal results of the Chicago Child-Parent Center (CPC) Preschool Program showed that preschool participation "was significantly associated with more years of education… a higher rate of high school completion … and a higher rate of college attendance" (Ou & Reynolds, 2006). Males benefited more than females in terms of the impact of preschool education on high school completion. "Findings demonstrate that large-scale school-based programs can have enduring effects into early adulthood" (Ou et al., 2006).

Conclusion: There is strong evidence that access to early child development programmes improves cognitive abilities which in turn affects a child's

achievements and successes in the school environment. The effects on delinquency and substance abuse are less clear cut with the combination of ECD programmes and family support programmes being required to show declines in the rates of these outcome. Furthermore the bulk of the evidence comes from developed country settings where environmental factors may be different to the South African context (although all of the participants were from low SES backgrounds). No clear evidence on the effects of ECD programmes on specific mental illnesses was found, rather the evidence suggests that access to ECD provides a buffer which when combined with other protective factors may decrease the impact of risk factors.

- **Access to pre-school education increases cognitive abilities of children which in turn improves school achievement and completion**
- **The impact of pre-school education on mental health outcomes is mediated through the effects on educational outcomes as above**
- **Adding a family programme to pre-school programmes results in decreases in substance abuse and delinquency among learners**

1.3. Housing Back to Index

The literature on housing makes a distinction between the social and built environment both of which may affect one's mental health (Whitley & Prince, 2005). One of the premises underlying some of the hypotheses on how the built environment affects mental health is the finding that the social environment is partly mediated by the built environment e.g. double glazing, shared facilities (showers), privacy (Whitley et al., 2005) and as such the built environment mediates both the social environment as well as the mental effects of the social environment.

In terms of the material aspects of housing, associations between mental health and a range of factors has been found as follows: housing quality (physical condition of the house) (Ellaway & Macintyre, 1998; Srinivasan,

O'Fallon, & Dearry, 2003; Whitley et al., 2005), presence/absence of 'defensible space' , 'deck access'(doors open directly onto shared public walkways) (Weich et al. 2002; Whitley et al. 2005), dampness, the presence/absence of a garden, brick/non-brick house (Whitley et al., 2005), location of the building, perceived air quality of environment (Kahlmeier, Schindler, Grize, & Braun-Fahrländer, 2001), overcrowding (contradictory evidence on this factor (Ellaway et al., 1998; Gilbertson & Green, 2005), type of dwelling (flat/house/floor of entry) (contrasting evidence on this factor; Ellaway et al., 1998; Gilbertson et al., 2005), architectural style/layout (Ellaway et al., 1998), housing costs (Ellaway et al., 1998; Geronimus, 2000) and tenure (contradictory evidence) (Gilbertson et al., 2005) have all been associated with mental health outcomes.

In terms of the immediate habitual environment factors relating to neighbours and the local environment have been found in several studies to impact on mental health. These factors include the nature of the relationship with neighbours (consideration, respect of privacy, social support) (Kahlmeier et al., 2001; Whitley et al., 2005), the levels of noise pollution (Ellaway et al., 1998; Kahlmeier et al., 2001), perceptions of the local environment (local amenities, local problems including social disorganisation and speeding, area reputation, fear of crime, satisfaction with area) (Ellaway et al., 1998) and neighbourhood social cohesion and social capital (Gilbertson et al., 2005). The subjective appraisal of these factors is found to be an important predictor of mental health outcomes (Whitley et al., 2005).

The main limitations of this evidence are that the studies are predominantly cross-sectional without a comparison group and it seems almost impossible to measure and adjust for all possible confounders. The literature on mental health and housing is overwhelmingly from developed country contexts and as such the relative importance of different aspects of housing may vary in a developing country setting. There is also a possibility of reporting bias as one could reasonably postulate that the appraisal of one's habitual environment may well be affected by mental status; on this point (Ellaway et al., 1998) provide evidence to show that area assessment is in many instances not biased by a person's mental health status. As bi-directional causality is most plausible (certainly for perceptions of the environment), longitudinal studies would be ideal; Halpern (1995) evaluates the neighbourhood environment and mental illness at baseline and then at 3 years follow-up after improvements to a housing estate area in the UK. While a statistically significant association between the area improvement and common mental disorders is found it is difficult to isolate which aspects of the improvement 'caused' the improvement in mental health outcomes.

Conclusion: There is a wealth of evidence to show the associations between aspects of the immediate and larger habitual environment and mental health outcomes. Although it is difficult to isolate specific aspects of the environment that account for this difference it is clear that improvements to the built environment improve perceptions of the environment and decrease mental illness.

1.4. Unemployment [Back to Index](#)

There is a large body of evidence for the association between unemployment and mental illness. The literature demonstrates the reciprocity of causation in the relationship between unemployment and mental health, and there was a substantial amount of research focusing on unemployment as a common consequence of mental illness.

Two reviews and one meta-analysis indicate that there is a negative relationship between unemployment and mental health (Jin, Shah, & Svoboda, 1995; Fryers, Melzer, & Jenkins, 2003; McKee-Ryan, Song, Wanberg, & Kinicki, 2005). The first review indicated that there is a significant association between unemployment and common mental disorders, including anxiety, depression and affected quality of daily life (Fryers et al., 2003). Findings in the meta-analysis concurred (McKee-Ryan, Song et al., 2005. According to Hudson's (2005) review of the link between socio-economic status and mental illness research has consistently shown that educational level, income, occupation and employment status are each *independently* strong predictors of the inverse association between mental illness and class, regardless of the type of mental illness, and accounts for up to 80% of this association (Hudson, 2005).

The causal relationship between unemployment and suicide was investigated in three year national longitudinal study in New Zealand, where results showed that unemployment was associated with a two- to threefold increase risk in suicide. Mental illness proved a confounder itself, as it could be a risk factor in unemployment (Blakely, Collings, & Atkinson, 2003). In terms of substance abuse, conflicting results have been found. One review found an association between unemployment and increased tobacco consumption and illegal substance abuse. Alcohol consumption was also found to be higher in unemployed males than females (Hammarstron, 1994). However, another review noted that the relationship between unemployment and alcohol intake was inconsistent and varied with circumstance – in some studies, increased alcohol consumption was associated with unemployment as a response to stress or having more leisure time, and in others, decreased alcohol consumption was associated with unemployment, due to lack of resources.

There has been a shift from treating labour market participation as a binary state of either employed or unemployed, to one which views the concept as being located on a continuum (Dooley, 2003). Underemployment has been shown to be a risk factor that holds as much significance as unemployment

for common mental disorders. This is illustrated in a longitudinal study which showed that when controlling for prior depression, adverse change in employment status (denoted as underemployment and unemployment) resulted in a significant increase in depression (Dooley, Prause, & Ham-Rowbottom, 2000). A prevalence study conducted in Kwa-Zulu Natal found surprising results – that employment was significantly associated with higher rates of depression. Upon investigation, it was found that of those who had indicated that they were employed, the majority were earning below the poverty-datum line (Bhagwangee, Parekh, Paruk, Pietersen, & Suberder, 1998). This confirms the evidence that underemployment is as much a risk factor for depression as unemployment.

- **There is strong evidence that unemployment increases common mental disorders**
- ***Underemployment* is equally a risk factor for mental illness**
- **The evidence on the association between unemployment and substance abuse is contradictory**

1.5. Food insecurity [Back to Index](#)

The American Society for Nutritional Sciences defines food insecurity as the lack of "availability of nutritionally adequate and safe foods or (where) the ability to acquire acceptable foods in socially acceptable ways is limited or uncertain" (Hamelin, Beaudry, & Habicht, 2002).

The National Food Consumption Survey (1999) indicated that the majority of South African households experienced food insecurity, plus there was a high prevalence of stunting (21.6%) and age-related underweight (10.3%) in children aged 1-9. While the Integrated Nutrition Programme has successfully created guidelines for the management of nutritional policy, particularly concerning vulnerable groups, there is a lag in implementation due to resource constraints, which suggests that the nutritional status of vulnerable South Africans is not being addressed (Steyn & Labadarios, 2002; Labadarios et al., 2005).

Evidence from cross-sectional surveys carried out in the U.S and Canada show that food insecurity is strongly associated with poor health outcomes, including mental illness (major depression, suicidal behaviour among teens and psychological distress) (Vozoris & Tarasuk, 2003; Stuff et al., 2004). Some limitations of this evidence were possible reporting bias as measures of both food insufficiency and mental illness relied on self-reporting and inability to establish temporality with the direction of causation unable to be determined by a cross-sectional study. The authors explain that causation could occur in either direction, and is probably reciprocal. Confounding is a recurring problem in these types of studies due to covariation between factors associated with both food insecurity and mental disorders. Weinreb et al. (2002) address the issue of confounding by measuring and adjusting for a large range of possible confounders of the relationship between food insufficiency and mental health. They found that compared to children with no hunger, children with severe hunger were significantly more likely to have greater stressful life-events, chronic physical illness, higher parental distress and anxiety and higher rates of depression and anxiety themselves. Studies looking at younger children found a similar pattern of food insecure households associated with both higher rates of maternal mental illness as well as behavioural problems in toddlers (Whitaker, Phillips, & Orzol, 2006).

Consistent with the international literature, significant correlations were found between children missing meals, due to lack of resources, and self-reports of depression in adult males and females in a household survey in the Langeberg Health District, South Africa (Case & Wilson, 2000). Another cross-sectional study (Oldewage-Theron, Dicks, & Napier, 2006) in an informal settlement in the Vaal Triangle of South Africa found that 78% of children had gone to sleep feeling hungry in the last month and 80.5% felt hunger after a meal. An analysis of the dietary intake indicated that meals were typically inadequate to meet the daily nutritional requirements.

Poor nutritional intake in terms of the quantity and quality of nutrients is a well established cause of decreased cognitive development in children; randomized controlled intervention studies in developing country settings have demonstrated significant improvements in cognitive abilities of children receiving the intervention compared to controls (Whaley et al., 2006). Micronutrient deficiency has similarly been shown to be associated with poor cognitive performance, lethargy and poor attention in children which limits their educational progress and therefore increases their vulnerability to a range of mental disorder risk factors (Demment, Young, & Sensenig, 2003).These findings are particularly pertinent when one considers that the quality of diet decreases in the face of increasing food insecurity (Kendall, Olsen, & Frongillo, 1996)

Conclusion: The evidence for the effects of food insecurity on cognitive development is sufficiently robust to conclude that a causal relationship exists. The evidence for association between food insecurity and mental illness strongly suggests a reciprocal causal relationship.

> - **Poor nutritional intake results in impaired cognitive development in children**
> - **Food insecurity results in significantly higher rates of common mental disorders but this relationship is bi-directional**

1.6. Poverty Back to Index

There is growing evidence from developing countries, confirming the findings from developed countries, that poverty increases the risk for both common and severe mental disorders across the age ranges (Bahar, Henderson, & Mackinnon, 1992; Fleitlich & Goodman, 2001; Inandi et al., 2002; Patel et al., 1999; Patel, 2001; Patel & Kleinman, 2003b; Saraceno & Barbui, 1997; Fleitlich et al., 2001; Inandi et al., 2002; Patel et al., 1999; Patel, 2001; Patel et al., 2003b; Saraceno et al., 1997). The literature in developing countries has tended to focus on the impact of stressors associated with poverty on common mental disorders such as anxiety and depression (Patel et al., 1999; Patel et al., 2003b) and epidemiological studies in this field have tended to focus more on prevalence rates rather than an investigation of risk factors (Patel et al., 1999).
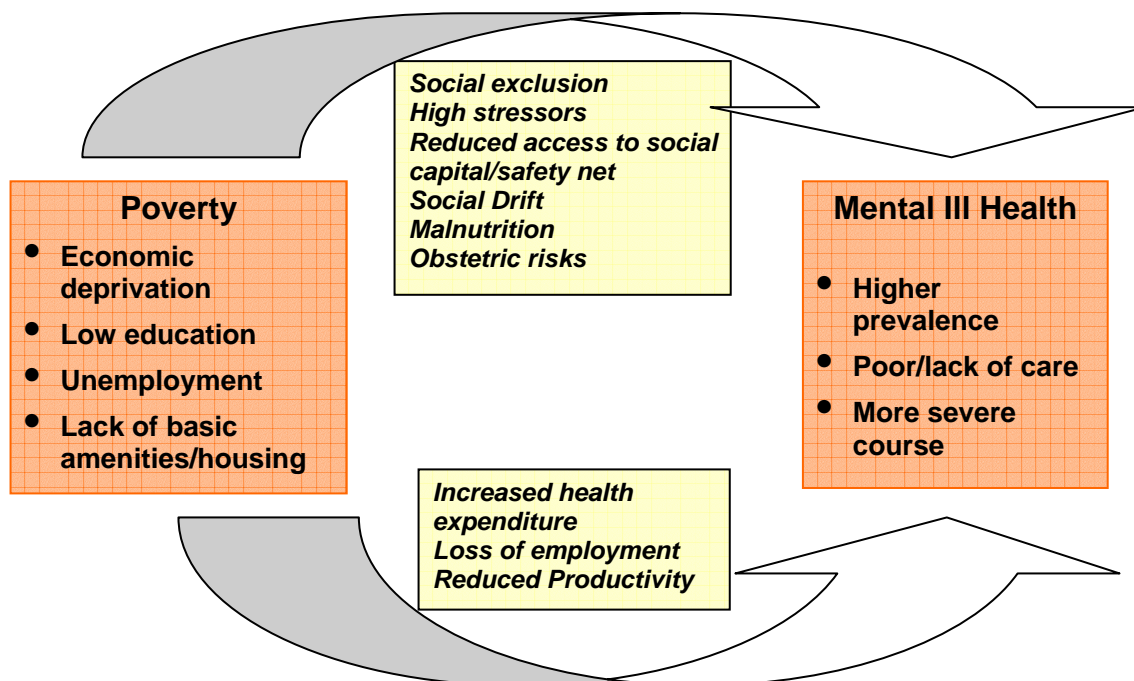
While poverty increases the risk for mental disorders, people with mental disorders in turn are at greater risk of sliding into poverty (World Health Organisation, 2001). The economic and social burden of mental disorders impacts on individuals, their families and communities (Funk, Saraceno, Drew, Lund, & Crigg, 2004). There is therefore a strong relationship between poverty and mental ill-health, which moves in both directions, is complex and multi-dimensional. This relationship has been described as a "vicious cycle" of poverty and mental ill-health (Patel, Abas, Broadhead, Todd, & Reelar, 2001) (Figure 1).

The relationship between mental health and poverty has been described in the literature as a debate between "social causation" and "social selection" theories (Saraceno et al., 1997; World Health Organisation, 2001). Can poverty be said to cause mental disorder (social causation theory) or are people experiencing mental disorder more likely to be poor and suffer related social ills (social selection theory)?

Evidence for the social selection theory comes from two major sources (Patel, 2001). Firstly, there is evidence that mental disorders lead to social and occupational disability (Patel et al., 1997) and therefore people with mental disorders are unable to be economically productive to their full potential. The impact of severe mental disorders may be even greater, as in addition to the social and occupational disability, these people may also experience stigmatization, which may impact on their ability to find a job. Secondly, there is evidence that people with mental disorders have increased expenditure on health care. The care may also be inadequate and therefore they remain unwell for longer and continue to have increased expenditure. The causal theory may be more valid for anxiety and depressive disorders, while the selection theory may account for the higher prevalence of psychotic

and substance abuse disorders among the poor (World Health Organisation, 2001).

Cycle of poverty and mental ill-health

Mechanisms of the poverty-mental health relationship

It is obvious that poverty in itself does not cause mental disorder just as poverty does not cause physical illness such as tuberculosis. However, the poor are more likely to suffer from tuberculosis, as factors associated with poverty, such as overcrowding and inadequate access to health care, lead to increased risk for the spread of tuberculosis (Patel, 2001). The same is true for mental ill-health, as shown in the evidence (below). It is important to note the complexity and non-linear relationship of the factors – that it is a combination of biological, psychological, economic, social and cultural risk factors that create a critical mass, leading to mental ill-health and/or poverty. The converse is true for protective factors – a combination of biological, psychological, economic, social and cultural protective factors create a critical mass, leading to mental health and/or poverty reduction/development.

Because of the lack of longitudinal studies in developing countries, it is not possible to demonstrate that poverty *per se* causes poor mental health. However, many of the features of poverty have been shown to carry strong associations with poor mental health. These features are now set out, with a view to identifying some of the mechanisms that are involved in this relationship.

1. Lack of opportunity

There is an obvious association between poverty and lack of opportunity (Patel, 2001). Sen (1999) has elaborated the many opportunities lost due to poverty. A strong predictor of mental disorder has been shown to be lack of education (National Academies Press, 2001). As with the reciprocal causation that marks the relationship between poverty and mental health, lack of education also appears to have a reciprocal relationship with poverty. In a survey of out of school children in a South African township, poverty was shown to play a key role in failure to attend school, through reduced access to school and the need for child labour (begging) (Liang, Flisher, & Chalton, 2002).

2. Unemployment and under-employment.

As described in the section on unemployment in section 1.4. above.

3. Stress of living in poverty

There is increasing evidence from the developing world of the impact of stressors associated with poverty on mental health. There is a gap in the literature regarding more focused studies examining specific stressors and the associated impact.

In a study of depression in Zimbabwe, Patel et al. (1997) found that economic stressors such as having experienced hunger in the past month were associated both with the onset of an episode of depression and the persistence of an existing episode (Patel et al., 1997). People presenting with common mental disorders were also more likely to be under acute economic stress. Depressed people have increased use of health services and therefore higher financial costs. They found evidence for a vicious cycle of poverty: depression, illness, disability, increased health costs, inadequate health care and further impoverishment (as illustrated in Figure 2).

These findings are confirmed in qualitative studies, for example in a study of urban Zambian women's explanatory models of mental illness, women perceived their socio-economics status as a major factor in mental illness (Aidoo & Harpham, 2001). In Ghana, women attributed psycho-social health problems such as "thinking too much" and "worrying too much" to the compulsory nature of their work and financial insecurity (Avotri & Walters, 1999). Using ethnographic methods, one study has provided detailed qualitative data on the central role played by squalor, overcrowding, unemployment, community violence, lack of clean water and sanitation in the mental health of women and men in a Mumbai slum (Parkar, Fernandes, & Weiss, 2003).

4. Physical ill-health

Poverty also interacts with mental health via physical health. Once again, this appears to occur in both directions: on the one hand poverty increases the

risk for physical ill-health, which in turn increases the risk for mental ill-health; and on the other hand, mental ill-health increases the risk for physical health problems, which in turn serve to entrench poverty. To illustrate the first pathway, South African studies have shown the increased risk for HIV infection among poor people (Eaton, Flisher, & Aaro, 2003), and HIV infection in turn increases the risk for a range of mental health problems, including depression, anxiety, suicide and AIDS dementia (Freeman, 2000). Similarly, women in poor communities in developing countries are more likely to have miscarriages and lose young children, both of which increase the risk for depression in mothers (Miller, 2005).

Conversely, mental health problems have been associated with physical health problems which in turn increase the risk for poverty. For example, common mental disorders in mothers have been associated with child malnutrition in India and Vietnam (Harpham, Huttly, De Silva, & Abramsky, 2005); and maternal postnatal depression has been associated with significantly poorer growth in infants in Nigeria, India and Pakistan (Patel, De Souza, & Rodrigues, 2003; Rahman, Iqbal, Bunn, Lovel, & Harrington, 2004).

Inadequate health care

Related to the previous point, poor people are more likely to have inadequate access to health care and therefore poor people with mental health problems may not receive necessary healthcare. This is likely to adversely affect their mental health status, given evidence of a high degree of co-morbidity between physical and mental disorders, and increased risk for physical health problems among people living in conditions of poverty (Patel, 2001; WHO Commission on Social Determinants of Health, 2005; World Health Organisation, 2001).

5. Scarce social resources and reduced social capital

Reduced social capital has been associated with poorer areas. Literature on the relationship between social capital and mental health has been discussed elsewhere in this review (see section 2.1.).

6. Increased risk of violence.

(Violence and mental health is discussed elsewhere in this review; see section 2.7 and 2.8. below).

7. Overcrowding – urban spatial factors.

In developing countries, urbanisation often occurs independently of a surge in industrialization and thus is not associated with improved economic circumstances, but can often lead to urban poverty and increased behaviours that leave people more vulnerable to risk for chronic lifestyle diseases as well as risk for infectious diseases (Von Schirnding & Yach, 1991). There is a massive increase in urban poverty, with manifestations such as overcrowding, inadequate housing, pollution, insufficient access to clean water sanitation

and other social services (National Academies Press, 2003). It is therefore recognised that the urban poor in developing countries are most at risk for severe adverse health effects.

Environmental problems may occur in many countries, as the rapid rate of urbanisation often outstrips the city's ability to provide infrastructure and basic services. This places strain on the city's resources, leading to a range of problems such as poor housing, overcrowding, inadequate water and sanitation supply, inadequate access to health care and education (Ruel, Garrett, & Garrett, 1999).

Mental health impact of poverty alleviation interventions

In developed country research, support for the social causation theory has been demonstrated for some childhood mental disorders (conduct and oppositional disorders), where the introduction of employment that moved some families out of poverty over an 8 year period had a significant effect on the mental health of children in those families (Costello, Compton, Keeler, & Angold, 2003).

In an examination of the effects of the introduction of a state pension on poor rural households in South Africa, depression scores among households with a state pension recipient were shown to be significantly lower (Case, 2004).

Similarly, in Bangladesh, following the introduction of a micro-credit programme, the Bangladesh Rural Advancement Committee (BRAC), programme recipients showed significantly higher scores on mental health items of the 36-item short-form health survey (SF36) than non-recipients, after the programme had been introduced 7 years earlier (Ahmed, Rana, Chowdhury, & Bhuiya, 2002). However, caution has been urged in linking mental health benefits to micro-credit schemes, particularly among poor women, who sometimes have to move beyond gender roles in order to access micro-credit, with associated family conflict and stress. In an evaluation of the effect of the BRAC programme on women's mental health, there was no significant difference in "emotional stress" between women who received the BRAC programme and those who did not (Ahmed, Chowdhury, & Bhuiya, 2001). Findings from Brazil indicate that women's involvement in credit-based informal employment may be a risk factor for the development of emotional stress (Santana, Loomis, Newman, & Harlow, 1997).

Poverty impact of mental health interventions

Treatment of depression in developing countries has been shown to improve functioning in a way that benefits the family and community and enables the person to cope better with their social and economic difficulties (Patel et al., 2003a; Patel, Araya, & Bolton, 2004; Patel et al., 2004). Thus the vicious cycle of poverty and mental health can be broken among some people by treating the mental disorder, and thereby preventing the slide into poverty.

Conclusion: The evidence demonstrates clearly, not only that poverty plays a fundamental role in the aetiology of mental disorders, but that mental disorders in turn serve to perpetuate conditions of poverty. The mechanisms by which this vicious cycle is maintained are complex and multi-dimensional. It is difficult to separate and identify the particular effects associated with each of the individual features associated with poverty, as listed above. Future research is needed, particularly in the form of longitudinal studies to further examine causality, and develop new models to capture the complexity of the relationship between poverty and mental health.

> - **There is strong evidence for a bi-directional relationship between poverty and mental illness (a 'vicious cycle')**
> - **It is difficult to separate out the effects of the various dimensions of poverty on mental health**

1.7. Welfare [Back to Index](#)

Very limited evidence was found on this topic. A South African cross-sectional study (Case, 2004) in the Langeberg District evaluated the health impact of old-age pensions on household health found that people living in households that had an elderly member *receiving an old-age pension* (R520 per month at this time). Adults living in households with a pensioner were significantly less likely to report symptoms of depression than members of households without a pensioner. They were also more likely to report better overall health, have a flush toilet, and were less likely to have skipped a meal. Pensioners themselves enjoyed these same benefits as the other household members and in addition were less likely to report deteriorations in health status due to limitations on activities of daily living. Similar associations were not found in households with elderly people not receiving a pension. These findings concur with findings of other research in South Africa which consistently find that "the ultimate impact of the grant must be understood at the household level" (Bhorat, 2002).

Other international studies evaluated the impact of social security on substance abuse and employment seeking. Findings indicate that while there was no significant effect of receipt of social security on alcohol abuse, there was an associated decrease in job seeking activity (Rosenheck, Dausey, Frisman, & Kasprow, 2000).

The table below indicates the distribution of social security payments in South Africa which shows that nearly 90% of the total social security expenditure is on Old age pensions and disability grants (Bhorat, 2002).

Table 2. Detailed division of welfare transfer schemes, 1999/2000

Transfer type	No. of beneficiaries	Spent Rm	% of Total
Old age	1 858 521	549	63.21
War vets	7 852	778	0.38
Disability	611 882	685	25.98
Maintenance	192 930	475	5.68
Foster care	48 934	548	1.66
Care dependency	22 823	356	0.50
Child support grant	158 305	264	2.59

(Table from Bhorat, 2002).

A review (Naidoo & Veriava, 2004) of social security in South Africa during 2000-2002 highlights several problems: while over 14 million South Africans received social security, 23 million have no source of income and nearly 17 million have an income below the poverty line. Among those eligible for social security under the current system there is a large gap between who is eligible and who receives the grant; statistics from the National Department of Social Development for example show that of the 3.3 million children eligible, only 1.5 million received the child support grant. Accessing child support grants is particularly difficult in rural areas. These figures illustrate two major problems with social security in South Africa; firstly the lack of administrative infrastructure to reach those eligible for social security, and secondly the exclusion of many South Africans who need social security but are not eligible for it under the current system. This means that social security calculated for individuals often supports entire households (Naidoo et al., 2004; Giese, Meintjes, Croake, & Chamberlain, 2003) and as such the intended benefits of the grant for the eligible individual are diminished. Frustration with the social security system has led to the campaign for a Basic Income Grant which has yet to be approved by government (Naidoo et al., 2004).

The Child Support Grant (CSG) was established in 1998 and provides regular income to more than 6 million children in South Africa. It consists of R180/month paid to the primary care-giver of the child and is open to poor children up to the age of 14 years. Despite the successes of this programme, there are many problems: (1) The primary caregiver is required to show proof of identity, employment income and other means of child-support. Evidence

has shown that the most poor are unable to fulfil these requirements due to insufficient means to pay for these documents or for transport to the relevant government departments (police, home affairs, social services) (Leatt, Rosa, & Hall, 2005; Giese et al., 2003). (2) The number of children in a house is not considered, as such a person earning R1200 per month with 5 children would not be eligible, yet a women earning R1000 with one child will be eligible (Leatt et al., 2005). These problems highlight some of the difficulties associated with accessing social security in South Africa.

Conclusion: Although there is limited evidence available, local evidence strongly suggests a protective factor of social security on both mental and physical health. The current situation of social security in South Africa indicates that a large proportion of South Africans who could benefit from income support are not accessing the existing system.

> - **A large proportion of eligible candidates in South Africa are not accessing social welfare grants; access to grants is most difficult for the most vulnerable**
> - **Evidence shows that access to the old-age pension grant improves the mental and physical health of all household members living with a pensioner**

1.8. Access to basic services [Back to Index]

There is very limited evidence available on this topic which appears to be under-researched. According to Census 2001 data (Statistics South Africa, 2001), approximately 15% of households in the Western Cape did not have access to basic services in 2001 (12% had no refuse removal on weekly basis, 15% had no flush toilet, 15% had no access to water in house or yard, 17% don't use electricity/gas for cooking, 12% don't use electricity for lighting, 26% don't use electricity/gas for heating). These figures however do not adequately represent the difficulties that household who do have such facilities may have in affording them. This is particularly important given the context of service delivery in South Africa which is undergoing decentralisation with services becoming the responsibility of municipalities who are then forced to recover costs; this burden is transferred on to households (Smith & Green, 2005). Although a free basic water policy was introduced, the allocated 6 kilolitres per month was found quite insufficient for households' basic monthly requirements (Smith et al., 2005).

A community-based based study using both quantitative and qualitative methods in several areas of Pietermaritzburg, South Africa, found that water, electricity and toilets were not affordable to many residents: "Low-income households faced an often desperate situation, either to pay for services on meagre incomes, thereby compromising other essential needs, or face the constant uncertainty of disconnection" (Smith et al., 2005, p436). This finding was consistent with similar research in Mumbai, India which found that lack of affordability extols a "heavy burden" (Parkar, Fernandes, & Weiss, 2003, p295) on the poor. The debt escalation that results is itself a source of stress with South African households reporting being embarrassed or humiliated

when approaching municipal authorities for help (Smith et al., 2005). Both studies found that due to the inability to meet payments, many people started stealing these amenities through illegal connections. This criminalisation of survival was found to turn "legitimate household survival mechanisms into 'criminal activities,' (and in so doing) brands households as 'bad citizens'" (Smith et al., 2005). Another phenomenon described was hostility and conflict between community members due to competition for resources (Parkar et al., 2003; Swartz et al., 2005) which was particularly evident in areas of unequal distribution of amenities (Smith et al., 2005).

Although the above studies speak of emotional stress and poor quality of life, there is a scarcity of research on the associations between lack of basic services and specific mental disorders. Only one quantitative study (Lepore, Palsanee, & Evans, 1991) was found: a cross-sectional study in India found that 'chronic strain' (from environmental strains including substandard housing and inadequate access to water) was associated with greater levels of psychosomatic symptomatology and that this association was independent of income (Lepore et al., 1991). There was evidence of interaction here, such that the lowest socio-economic group experienced the greatest psychosomatic symptoms in relation to chronic strain. A qualitative study in the Western Cape (Swartz et al., 2005) evaluated the impact of inadequate basic services on those already with mental illness and found stressors associated with inadequate services (as described above) to exacerbate the strain on both the mentally ill and their families.

Conclusion: There is a paucity of research on this topic and as such causal association cannot be drawn. The available evidence, however, indicates that this is an important area for further research as preliminary findings indicate a likely relationship between basic services and psychological distress with the poor being disproportionately affected.

> - **This area is not adequately researched**
> - **At least 15% of people living in the Western cape do not have full access to basic services; even more are likely to struggle to afford to pay for basic services**
> - **Preliminary evidence suggests lack of access to basic services has a negative impact on mental health**

1.9. Transport [Back to Index]

No articles were found on the impact of transport on mental illness (access to health services not included in this topic) however the literature on the health effects of transport systems and policies has some implications for mental health. This can be gleamed by an understanding of the role of transport: "The primary function of transport is in enabling access to people, goods and services. In doing so it also promotes health indirectly through the achievement and maintenance of social networks" (Gorman, Douglas, & Conway, 1998). This idea however is contrasted with studies evaluating the impact of traffic on social networks; a study in San Francisco found a negative association between traffic and social contacts with those in light traffic areas having 3 times as many friends in the street of residence (Gorman et al., 1998). A systematic review of the health impact of new road construction found evidence of both increases in noise disturbance and community severance (decreased residential social contacts) associated with the construction of new roads (Egan, Pettigrew, Ogilvie, & Hamilton, 2003). Davis and Jones (1996) take this a step further and argue that urban centres with high traffic and poor road safety impede children's independent mobility and play and as such may impact on the development of life and social skills and children's quality of life, referring to the "marginalisation of children in the city" (Davies & Jones, 1996).

On the other hand, walkability of neighbourhoods (resulting for example from transport policies that encourage walking and cycling) was found to be associated with increases in physical activity and social capital (Parkes & Kearns, 2006; Srinivasan et al., 2003; Leyden KM, 2003) and accessibility to recreational facilities also requires adequate transport to these facilities.

Particular problems relating to urban development and transport in Cape Town are raised by Turok (2001) who describes in detail the 'spatial mismatch' between where the majority of Cape Town's residents live and the areas where jobs and facilities are found: "The Cape Town CBD, together with the northern and southern arms, houses some 37% of the population but contains over 80% of all jobs in the CMA…The result is a huge daily

movement of people between home and job". This mismatch impedes access to economic, social, cultural and recreational opportunities. For those who are able to travel, the longer distances from southern 'township' areas mean that the lowest economic strata pay up to 10% of their household income on transport. An analysis of the trends in Cape Town's urban development powerfully illustrates the ability of market-lead development to entrench spatial segregation inherited from apartheid. According to Turok, achieving urban integration requires appropriate housing and transport policies. While this issue is perhaps less of a concern outside of the Metropolitan district, spatial segregation along racial lines is evident throughout most of the Western Cape.

The safety of commuters while utilising public transport is another important area that would require further investigation; for the purposes of this summary the reader is referred to the section on the mental health effects of trauma in this regard.

Conclusion: There is insufficient research on the relationship between transport (and connectivity more generally) and mental health so it is not possible to draw definitive conclusions. The evidence suggests that transport systems and urban planning in this regard affects social capital, physical activity, children's recreational choices and access to a range of other resources that affect mental health (employment, social networks etc.) however evidence of a direct link has not been adequately researched.

> - **This area is inadequately researched**
> - **The evidence suggests that transport affects access to a range of mental health resources and as such we can postulate that adequate transport systems are likely to be protective for mental health**

1.10. Access to health services and health systems issues
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Most studies of health systems issues approach the topic implicitly from the perspective that untreated mental health conditions become worse over time, and therefore poor access to health services increases the ultimate burden of disease as the health system is then treating long-term, chronic, entrenched problems. There is evidence that untreated depression, anxiety and PTSD become more serious over time, and hence increase service costs (Goenjian, 2005; Simon, 2002). Suicide is another potential outcome of untreated mental illness that is not only tragic but also has cost implications for the health (and other) systems (Portzky, 2005). Improving access to and retention in services therefore reduces the ultimate burden of disease.

Worryingly, access to mental health services in South Africa is low. Inpatient staff/bed ratios are low compared to developed nations, with ratios for the

nine provinces ranging from 0.20-0.59 (Lund & Flisher, 2002). Additionally, rates of detection of mental health disorders are very low: one study found that primary care clinicians had, despite high rates of both, identified none of the traumatic events or psychopathology present in their patients in an urban, Xhosa primary care population in Cape Town (Carey, Stein, Zungu-Dirwayi, & Seedat, 2003). This is of particular concern as primary care is most likely to be the route via which patients access the mental health system. Other problems in the service system include: a lack of implementation of policies and programmes for decentralisation and integration of services into general health systems; and the low priority given to mental health services and hence their minimal resources (Kigozi, 2003).

In terms of access to substance abuse treatment, there are 25 treatment centres in the Cape Metropolitan Area, and they serviced 2 131 clients in the last six months of 2005; the Black South African population is most under-served (probably because of language barriers and geographic inaccessibility) (Cerff, 2006). A recent unpublished study indicates that prevalence of hazardous use (i.e., at levels indicating abuse and dependence) of alcohol and other drugs (not tobacco) among patients of the public health system in the Cape Metropolitan Area is 22.1% of those aged 18-24, and 13.6% for those aged 25 and over (Ward and Flisher, personal communication). With an estimated population of 4.2 million, it is clear that need for treatment is considerably higher than actual treatment being received.

International literature finds that even in relatively well-resourced settings, children are often under-served by traditional mental health services, and schools have therefore been investigated as an appropriate site for delivering mental health services for children. Schools have the advantage of offering easy access to children; they offer more opportunity to assess multiple indicators of children's functioning (such as classroom behaviour and peer relations); and finally, working in and through schools may reduce barriers to schooling for those children with mental health problems (for instance, teachers may be trained in appropriate support for children with ADHD) (Atkins et al., 1998). However, mental health resources dedicated to the school system are extremely sparse (Bruce Philips, personal communication).

Several studies examine concepts that are related to health system issues: typically, unmet needs and service satisfaction. Studies of unmet needs identify needs that patients have in a number of domains (such as housing, mental health services, etc.), and then note which needs are not met at termination of services. Service satisfaction is more focused on the service itself, and typically assesses domains such as overall satisfaction, professionals' skills and behaviour, information, access, efficacy, type of intervention and involvement of relatives. Finally, there are several studies in the area of quality of life, which may offer a more sensitive measure of outcome than traditional outcome studies, as it takes account of improvements that may not meet criteria for "cure".

In the adult population, a cross-sectional study in Cape Town indicates that groups that are vulnerable to having unmet needs are those that are marked

by unemployment, single status, low quality of life, high disability scores, and the presence of certain diagnoses (such as affective and personality disorders) (Joska & Flisher, 2005). A longitudinal British study finds that, aside from baseline quality of life, follow up quality of life was predicted by patient-rated unmet need (Slade et al., 2004).

A cross-sectional study finds that service satisfaction is related to health, social relations, participation in leisure activities, and general well-being (Ruggeri, Gater, bisoffi, Barbui, & Tansella, 2002), and may be an important factor in relation to adherence to treatment and continued psychiatric care (although there is very little evidence specifically in relation to this) (Kessing, Hansen, Ruggeri, & Bech, 2006). A recent longitudinal study, however, finds that service satisfaction, psychological status, and self-esteem were the most important predictors of subjective quality of life (Ruggeri, 2005). Similarly to quality of life, relationships have been found in a retrospective study between service satisfaction and life satisfaction, particularly for persons with schizophrenia, affective disorder and adjustment disorder, but not for persons with anxiety disorder (Rohland, 2000).

Conclusion: There is strong evidence that untreated mental health problems may become more severe and/or chronic, and this speaks directly to the need for good access to mental health treatment. However, the mental health service system is not well-resourced, and there is some evidence that mental health problems are not being identified at primary care level (the most likely access route to the mental health system). Other service system elements, such as satisfaction with services, may affect adherence to treatment and thus prognosis.

> - **Untreated mental health problems become more severe and/or chronic, thus increasing the burden of mental illness**
> - **Access to mental health and substance abuse services is thus critical**
> - **However, these services are under-resourced in the Western Cape**
> - **Detection of mental illness in the primary care system (the most likely access route to the mental health system) is also very low**

1.11.Migration [Back to Index]

Migration is a heterogeneous process, which can involve movement on individual, familial and group levels. Factors which motivate migration are diverse and may satisfy intrinsic needs (nomadic populations) or extrinsic needs (ways of seeking a better life elsewhere, avoiding persecution etcetera) (Bhugra, 2004). Migration spans long and short periods of time and may be seasonal, temporary or permanent. Furthermore migration may be local or distant within a national or international paradigm. The impact of migration on mental illness has to be viewed with these variable factors in mind, as the nature of these factors determines the psychological response to exposure

(Bhugra, 2004). Furthermore, the literature makes fairly clear distinctions between migration and displacement. Migration is an umbrella term for both voluntary and forced processes, but within this lies the term forced displacement, which largely concerns the migration of refugees and asylum seekers (displaced beyond their borders) and internally displaced people (IDPs), who are displaced within their own borders (Thomas & Thomas, 2004).

The association between migration in general and common mental disorders is not clear cut because of the multitude of the factors mentioned above, which influence the relationship; results of studies investigating the relationship have shown contradictory results depending on the context of the migrant population and their environment (Bhugra, 2004). The general literature focuses far more on the impact of forced migration.

In terms of forced migration, refugees are reported to be at higher risk of depression, PTSD, suicide, substance abuse and psychosis, which is often linked to a history of physical or psychological trauma (Adams, Gardiner, & Assefi, 2004). Much research on refugees follows this model – that psychopathology in refugees is perceived in light of a post-traumatic reaction to an acute stressor, rather than a result of an exposure to both predisplacement and postdisplacement related stress (Porter & Haslam, 2005). A meta-analysis of the prevalence of mental disorders among refugees in seven western countries showed that approximately 1 in 10 adult refugees has PTSD, approximately 1 in 20 suffers from major depression, and 1 in 25 suffers from generalized anxiety disorder. These results may overlap in many individuals (Fazel, Wheeler, & Danesh, 2005). A review of studies assessing the impact of forced displacement on young refugees in the US, shows prevalence rates of PTSD and depression of greater than 50% (Lustig et al., 2004).

One meta-analysis (Porter et al., 2005) looked at the extent to which refugees (defined to include IDPs, refugees and stateless persons) experienced psychopathology on a global level. Fifty-nine comparison studies were included, the results of which showed that "refugees who were older, more educated, and female and had higher predisplacement socio-economic status and rural residence, had worse [mental health] outcomes" (Porter et al., 2005).

The above authors note the dearth of literature on the state of refugees in Africa, and lament that "the global distribution of refugees is not adequately represented in the literature" (Porter et al., 2005). One particular stressor in South Africa could be that of xenophobia; with the influx of displaced persons, "locals" and "foreigners" are forced to compete for resources – employment, housing, amenities and physical space. Hence, immigrants have been accused of taking local jobs, lowering wages, causing the spread of disease and an increase in crime, and are frequently the victims of hostility and resentment which is acted out in verbal and physical abuse (Maharaj & Rajkumar in Dodson & Oelofse, 2000). Ongoing reports in the Cape Times regarding the current situation of Somali shopkeepers in Cape Town are a case in point.

Literature on the forced relocation (displacement) of residents from informal settlements in post apartheid South Africa is scant. Cape Town has a housing backlog of 245 000, and it is reported that this increases by 16 000 per annum, with a delivery rate of 11 000 (Khan, 2004). The N2 Lead Gateway project, led by the City of Cape Town was instigated in 2004 to target the informal settlements along the N2 freeway, between the city of Cape Town and Cape Town international Airport. Many residents of the Western Cape selected as potential recipients for this project were required to leave their existing residences and were resettled at significant distances from the city centre. Furthermore, residents were not given any firm commitment that they would indeed benefit from the project and were rehoused in makeshift shelters with poor access to basic services and personal security (personal communication with a resident removed from her location for the N2 gateway project who wishes to remain anonymous, 2006). No evidence of the effects of this housing project, apart from material from newspaper archives, seems available as yet.

Rural-urban migration is discussed under urbanisation.

Conclusion: The evidence strongly supports a relationship between forced relocation and common mental disorders, but the effects of voluntary relocation are less clear cut with the mental health outcomes being dependent on the presence of a range of risk and protective factors.

- **There is strong evidence for an association between forced relocation and mental illness**
- **The mental health effects of voluntary relocation are dependent on the presence of a range of risk and protective factors**

1.12. Spatial segregation

As Pieterse (2004c) explains, "after almost a decade of resolute post-apartheid urban development policy action we are confronted with the harrowing fact that South African cities may be as segregated, fragmented and unequal as they were at the dawn of political liberation." De Souza Briggs (2004) describes the effects of spatial clustering and segregation as decreased access to the labour market, social exclusion, diminished access to consumption markets, isolation from quality public services, differences in exposure to environmental hazards and truncation of bridging social capital. In addition he highlights the effects of social stigma as a function of place of residence (i.e. discrimination on the basis of where one resides) and the formation of cultural identities that define an 'us' and 'them'. The author points out however that one must also recognize the contributions of self-segregation and the enhancement of a particular cultural identity when people remain in a more homogenous grouping.

Lemanski (2005) describes some of the consequences of residential segregation in her study of the experiences of segregation between two adjacent communities in Cape Town (Westlake, low-cost housing area and Silvertree a wealthy suburb); there is very little social connection between the two communities with Silvertree residents seeing the Westlake residents as inferior, lazy and as a potential threat. The Westlake residents feel unwanted, excluded and angry about the intentional seclusion of their community from 'shared' facilities in the neighbourhood (such as the Pick 'n Pay centre). As Lemanski explains "spatial separation becomes intertwined with social exclusion" such that a social apartheid becomes visible (Lemanski, 2005).

Three important post-apartheid governmental policies have attempted to address urban integration : the national Urban Development Framework (UDF), the Gauteng Four-Point Plan for Regeneration and the Cape Metropolitan Spatial Development Framework (Isandla Institute, 1998). Although no evidence was found, planning strategies encompass what could be assumed to be protective factors in mental illness, for instance the decentralization of urban spaces, and the promotion of local business and services, all within close proximity to communal green urban spaces. The UDF argues that, "spatial integration through sound urban planning, land transport and environmental management, is critical to enhance the generative capacity and ease of access to socio-economic opportunities in our urban areas" (UDF in Pieterse, 2004a). Fundamental to the realization of urban integration is an effective public transport system, the development of high density mixed income and multiple use units, which encourage which community interaction, as well as urban renewal in townships and informal settlements (Pieterse, 2004b). No evidence of the direct impact of spatial segregation and mental illness was found.

Conclusion: The available research on ongoing spatial segregation does not address mental health directly but strongly suggests a negative impact on mental health through both direct and indirect mechanisms.

1.13. Recreation: physical activity and leisure Back to Index

There is a paucity of leisure research in developing countries with most research found having being conducted in developed country settings (Wegner, Flisher, Muller, & Lombard, 2006).

Iwasaki (2003) tested a range of theoretically grounded leisure coping models by a cross-sectional study of emergency response service workers. The findings were that "although stressors negatively influence immediate adaptational outcomes and health, leisure coping beliefs and strategies help facilitate positive immediate adaptational outcomes that subsequently have a positive impact on health, irrespective of the presence or levels of stressors experienced" (Iwasaki, 2003). Although impressive statistical analyses of several competing models are presented, none of these models are adjusted for personality which can reasonably confound this relationship. There is also reference in the literature to the importance of leisure with respect to identity formation in adolescents, social skills and physical exercise (Patterson & Pregg, 1999).

Multiple studies (including randomised controlled trials and meta-analyses) have demonstrated the preventative and therapeutic benefits of physical exercise on mental health including the prevention of depression, improvement of depressive symptoms, prevention of depression relapse, reduced 'stress' and increased self-esteem (Paluska & Schwenk, 2000; Penedo & Dahn, 2005). Recent meta-analyses (Paluska et al., 2000) of the effects of physical exercise on depression have shown that those with the severest depression benefit most from physical exercise. The evidence is less convincing for nonclinically depressed populations with contradictory findings in different contexts. In terms of anxiety, few studies have focused on DSMIV anxiety disorders. Several meta-analyses have evaluated the impact of exercise on 'anxiety' and although a positive association was found, this was not deemed to be a causal association (Paluska et al., 2000). Aspects of the built environment have been related to physical activity in adults, namely proximity and ease of access to recreational facilities, as well as the 'walkability' of an area (Norman et al., 2006). These results have yet to be replicated for adolescents.

There is also a large body of work evaluating the effect of 'leisure boredom', defined as "the subjective perception that available leisure experiences are not sufficiently frequent, involving, exciting, varied or novel" (Patterson et al., 1999). Several cross-sectional studies have found a positive association between leisure boredom and substance abuse (Wegner et al., 2006);

conversely, substance abusers were more likely to report a greater need for sensation and thus a lower threshold for boredom (Patterson et al., 1999; Wegner et al., 2006). These findings have not been uniformly replicated in the South African setting; a study (Wegner et al., 2006) of 621 adolescents from public schools found an inverse association, such that those who abused substances were less likely to report leisure boredom (Wegner et al., 2006). However, a qualitative study by Ziervogel et al (1998) (Wegner et al., 2006) found that adolescent male binge drinkers primarily drank alcohol as a means of entertainment.

There is some evidence of racial and class differences in leisure boredom which appears to be on the basis of inadequate leisure resources (Wegner et al., 2006). Resource factors affecting leisure choices include availability of transport to and cost of recreational activities (Kelly, 1978; Patterson et al., 1999) and the availability of alcohol-free recreational venues (Kelly, 1978; Patterson et al., 1999). Gender differences were also noted (Patterson et al., 1999; Wegner et al., 2006) but findings were inconsistent across studies.

Conclusion: There is strong evidence for physical activity as a protective factor against depression. The research on leisure boredom strongly suggests a negative impact of leisure boredom on substance abuse, however findings have not been replicated in the South African setting.

> - **Physical activity improves depression**
> - **Leisure boredom is associated with increased substance use**
> - **Access to leisure resources is a strong determining factor in leisure choices**

1.14. Urbanisation

Although it has often been assumed that urban environments are toxic in terms of mental health (for instance, (Webb, 1984)), recent reviews show that the relationship between urbanicity, rurality and mental health is complex. A comprehensive review shows that most studies fail to find a difference in prevalence of mental health problems between urban and rural settings. Those studies that do examine other possible causes find that other factors are more powerful than location of residence; these factors include:

poverty, unemployment, being female, not being married, lower socioeconomic class, self-reported alcohol problems, history of childhood sexual abuse, poor social networks or low perceived social support, life event in previous 12 months, and size of primary support group (Judd et al., 2002).

Two other studies published more recently, however, find that urban environments are associated with poorer mental health. The National Morbidity Study in Great Britain finds that increasing urbanicity is associated with increasing psychological morbidity, alcohol dependence and drug dependence. However, after adjusting for disadvantage (e.g., employment status, renting vs. owning home, housing type, marital status), life events and social support, there was no difference between urban, semi-urban and rural respondents in terms of substance dependence, and only slightly higher odds for psychiatric morbidity (1.33 vs. 1.00, urban vs. rural) (Paykel, Abbott, Jenkins, Bhugra, & Meltzer, 2003). A longitudinal study of psychosis and depression in Sweden, similarly shows that the risk of developing depression was 12-20% higher for those living in the most densely populated quintile vs. the least densely populated quintile. These findings remained after controlling for marital status, education and immigrant status, although these covariates were significantly associated with mental health outcomes. This latter study is stronger than most studies in this area, as it is (a) longitudinal; (b) uses the whole population of Sweden; and (c) examines incidence rates rather than prevalence rates (Sundquist, Frank, & Sundquist, 2004).

Clearly, the issue of whether urban or rural living is better for mental health remains vexed. In addition, with relevance to the Western Cape, urbanisation in developing countries may differ from that in the developed world: it may not be accompanied by industrialization and improved economic circumstances, but may instead be characterized by urban poverty and behaviours that increase both chronic diseases of lifestyle and the risk of infections diseases (Vorster et al., 2000). Just one study could be identified examining urbanization and its association with mental health in South Africa: a cross-sectional study that took place in the North West Province and studied exclusively the Black African population of the area (Vorster et al., 2000). In this study, the urbanization of participants was characterized as: rural traditional African village; farm workers on commercial farms; informal settlements; established urban township; affluent, westernised circumstances. In terms of mental health, the study found that farm workers had the highest psychological morbidity and those living in affluent western circumstances the best. However, in this study it should be noted that affluence was clearly conflated with the measure of urbanization.

A major issue in the developing world is rural-urban migration, which may have its own risk factors for mental health. Moving to an urban area often means loss of social support, changes in daily occupation, changes in housing standard, and increased environmental stressors such as noise (Bhugra, 2004). Studies in Cape Town indicate that the longer an adolescent has spent in an urban area, the more likely s/he is to develop risk behaviours, including suicidality (Flisher & Chalton, 2001b). However, there is very little research about this in South Africa.

Conclusion: The evidence for urban or for rural living as a risk factor for mental health problems is not strong. In the developed world, there appears to be, in well-designed studies, some tentative evidence that urban living may have slightly detrimental effects on mental health, although the stronger associations appear instead to be between mental health and individual sociodemographic characteristics, and mental health and characteristics of the neighbourhood in which participants live. Urbanisation in the developing world, however, may have very different characteristics from that in the developed world, and its relationship to mental health has not been sufficiently studied for any conclusions about causal association to be drawn.

- **There is some evidence from the developed world that living in an urban area may be related to poorer mental health.**
- **However, urbanisation in the developing world may be characterised by very different problems than that in the developed world, such as urban poverty and behaviours that increase risk for chronic diseases.**

Social Factors

2.1. Social capital

An excellent systematic review (De Silva, Mckenzie, Harpham, & Huttly, 2005) on social capital and mental illness indicates the following:
- Strong evidence of an inverse association with cognitive social capital (perceptions of trust and connectedness) and mental illness in adults
- Moderate evidence for an inverse association with cognitive social capital and mental illness in children
- Contradictory evidence for the relationship between structural social capital and mental illness
- Inadequate evidence to assess the association of ecological (community) level social capital on mental health (the above 3 all refer to individual level SC)

Limitations of this evidence and review were that *)% of the studies were from the United Kingdom and United States of America, with minimal evidence from developing countries; the majority of studies only measured social capital at an individual level with no studies examining bridging social capital; the evidence is predominantly based on cross-sectional studies and the review excluded studies that only used mental health or sub-clinical mental illness as an outcome thereby potentially underestimating the effects of social capital.

Another 'systematic' review (Almedom, 2005) although methodologically weaker helps to identify group differences in response to social capital. The findings here showed several vulnerable groups who stand to benefit more from increases in social capital. These groups include women with young children, the elderly, marginalised groups (due to for example race or refugee status). The article also highlights differences in the need for and effect of social capital in different developmental stages (childhood, adulthood and the elderly) and illustrates very well the utility of social capital in certain contexts, and the potential harm in other contexts.

In terms of evidence from developing countries, reference is made to Harphams' article (Harpham, Grant, & Rodriguez, 2004) which showed that once violence is added to the model, the effect of social capital falls away and she concludes that 'classic poverty' factors are thus more important than social capital in poverty situations. This conclusion doesn't make sense for two reasons; firstly violence here is a likely mediator as well as a confounder of social capital and mental illness so the appropriateness of including it in the model in the first instance is questionable, secondly, the model without violence but with the 'poverty factors' (employment, education) showed social capital to be significant. Generalisability of the study findings is also an issue as this study only considers outcomes in youth.

Conclusion: While evidence is based predominantly on cross-sectional studies, there is a clear association between social capital and mental health.

Again, the likelihood is that this relationship is reciprocal. More data from developing countries should be sought before final conclusions are drawn.

> - **The evidence indicates a reciprocal relationship between social capital and mental health**
> - **Certain aspects of social capital are insufficiently researched**

2.2. Occupational stress <u>Back to Index</u>

The meaning of work is an important aspect of mental health: "work is not just the job people go to- it is a community they belong to, a location where they meet and see friends, a place where they develop a sense of self and strength of purpose in life" (De Vries & Wilkerson, 2003). As such it is not surprising that work and family are the "two most important domains" in people's assessment of their Quality of Life (Tennant, 2001).

The literature speaks about a concept called 'work stress' which is defined differently in different contexts, but a useful definition by Kortum et al (2003) is as follows: "work-related stress can be defined as a pattern of emotional, cognitive, behavioural and physiological reactions to adverse and noxious aspects of work content, work organisation and work environment" (Kortum & Ertel, 2003). Concern is expressed at the 'growing epidemic' of work-related stress reportedly to have doubled in the European Union since 1990 with current prevalence rates here at 28% (Froneberg, 2003). The outcomes of work stress reported in the literature include depression (Froneberg, 2003), chronic fatigue (Tennant, 2001), aggression, unhealthy lifestyle habits, early retirement, burnout (Froneberg, 2003), alcohol abuse, somatisation and musculoskeletal disorders (Tennant, 2001).

Aspects of work resulting in 'work stress' include improper design of tasks (Stavroula, Griffiths, & Cox, 2004), management style and organisational culture (Stavroula et al., 2004; Baguma, 2003), career-related anxieties, strained interpersonal relations (Kortum et al., 2003), conflicting and uncertain work roles, unpleasant or dangerous working environment (Stavroula et al., 2004), and imbalances in the home and social – work interface (Stavroula et al., 2004; Kortum et al., 2003). The relative importance of these factors is also dependent on the occupational status of a worker (Tennant, 2001). The model commonly used to conceptualise how these factors operate is the Demand-Control-Support Model which postulates that low control, high demand/low demand and low social support result in mental illness. A thesis by De Lange (De Lange, 2005) reviews the evidence for this model and concludes there is modest support for this model but the evidence is not for the factors in *combination*, but rather as independent predictors of mental illness.

Variables that interact with work stress and the outcomes include coping skills (Froneberg, 2003; Baguma, 2003), state of physical health (Baguma, 2003), specific stressful events in the workplace, personality, sex, occupational class and the availability of social support (Tennant, 2001).

More distal causes of work stress include globalisation (resulting in longer hours, job insecurity, unemployment, contract/temporary work and increased workloads) (De Vries et al., 2003; Froneberg, 2003; Kortum et al., 2003), the greater use of mental skills in the workplace (De Vries et al., 2003) and organisational cultures of workaholism (Kortum et al., 2003). In the developing country context it is important to note the particular stresses of work in the informal sector (with forced occupational mobility and a fragmented work life) which is often carried out by the most vulnerable groups (women and children) and beyond the ambit of labour laws. The impact of high unemployment rates on occupational insecurity and stress is also emphasised (Kortum et al., 2003).

Although much of the evidence on this topic is from longitudinal studies, the evidence is heavily concentrated in developed countries. The nature of the topic also gives rise to many methodological weaknesses in that both the outcome and exposure are self-reported and there is likely to be reciprocal causation with work-stress and CMDs. Personality is an important confounder which is not always adequately measured or adjusted for. The consistency of the definition of work stress and its measurement is also problematic.

Conclusion: Overall the associations between work-stress and mental illness are strong and most certainly work-stress appears to either cause or exacerbate mental health problems. A reciprocal relationship is the most plausible. Work-stress in itself can be considered a mental health outcome and again the evidence for the work environment resulting in work-stress is convincing.

> - **There is a strong association between 'work stress' and common mental disorders; this relationship is mediated by both environmental and individual factors**
> - **Developing country work stressors include job insecurity and the fragmented work life associated with the informal sector**

2.3. Media [Back to Index]

Research in this area tends to focus on the negative impact of media on mental health and behaviour with less information on possible positive effects.

In terms violence and aggressive behaviour as an outcome the evidence is conflicting; two meta-analyses reportedly showed that exposure to violence on television resulted in aggressive behaviour in children (Bar-on, 2000). However, an excellent review article by Felson (1996) reviews evidence from lab experiments, field experiments, natural experiments and cohort studies and he concludes that while lab experiments illustrate short-term effects of exposure on aggression well-designed cohort studies show no long-term effect of exposure on violent behaviour (Felson, 1996). Others point out that only a minority of children exposed to violence in the media will show aggression therefore it is important to establish who the vulnerable groups in

this instance are (Kaliebe & Sondheimer, 2002). The main limitation of much of this evidence is self-selection whereby children who are already aggressive may watch more violent television programmes.

The effects of exposure to sexual acts on television or in film is reported to influence adolescents' sexual attitudes and beliefs (Bar-on, 2000) as Zillmann explains: the problem is not exposure to the sexual acts themselves but rather the circumstances under which sexual contact is sought and gained: "the pursuit of sexual access is typically presented as relentless and exploitative, that sex is a sporting event that amounts to innocent fun, and that it is inconsequential for subsequent emotions and health" (Zillmann, 2000). Unregulated media exposure in this context is said to result in risky sexual behaviour in youth (Kaliebe et al., 2002). Pornography may result in the objectification and/or sexualisation of women which can impact on women's' self esteem and male attitude towards women (Kaliebe et al., 2002). A cross-sectional study by Kim (2001) showed a negative correlation between viewing of pornography and self-esteem and self-efficacy in Korean adolescents (Kim, 2001), however the direction of causality here is questionable. Overall, there was little convincing evidence on the association between exposure to sexual material and negative mental health consequences.

Some interesting studies examine the 'contagion effects' of media reports of suicide. There is a wealth of evidence on this topic including an excellent review article (Pirkis & Blood, 2001) which concludes that there is strong evidence for a causal relationship between exposure to reports of suicide and suicide attempts (including 'unconscious' suicide attempts in the form of motor vehicle accidents).The evidence indicates that those most affected by these reports are people of the same age and gender. The major drawback with these studies and reviews is that they are based almost exclusively on ecological studies, but the evidence is pretty convincing none the less.

A review of how the mentally ill are portrayed in the media found that portrayals of the mentally ill are overwhelmingly negative (Kaliebe et al., 2002) (frightening, dangerous, lacking in comprehension, unpredictable, unproductive, asocial etc) (Wilson, Nairn, Coverdal, & Panapa, 1999).

Effects of media on cigarette and alcohol consumption were noted (Bar-on, 2000; Kaliebe et al., 2002) but not pursued as this falls outside the ambit of this workgroup.

One article cites evidence about possible effects of TV watching on prosocial behaviour in children (through imitation) as evidenced in a study by Friedrich and Stein (Bar-on, 2000). The educational benefits for children also cited in this article as evidenced by extensive research on *Sesame Street*. Kaliebe et al (2002) also postulate that radio talk shows may illustrate healthy forms of discussion and debate.

Conclusion: There is conflicting evidence on the role of the media in mental health. The majority of the evidence is based on studies with numerous

methodological weaknesses some of which are unavoidable given the topic of research. The most convincing evidence is for the contagion effects of suicide reporting and this raises interesting questions about the reporting of these types of events. Overall, it seems likely that certain individuals will be vulnerable to the influence of media however research to date does not allow adequate identification of these groups.

- **There is strong evidence for the contagion effect of suicide reporting on suicide rates**
- **There is contradictory evidence on the effects of exposure to violence in the media and rates of aggression; the evidence indicates a short-term increase in aggression in a minority of children**
- **The effect of media on sexuality is inadequately researched**
- **Advertising increases alcohol and nicotine use**
- **Exposure to media also has prosocial and educational benefits**

2.4. Race

A review of the literature shows conflicting results on the association between race and mental illness with positive, negative and null findings reported in different settings (Fagg, Curtis, Stansfeld, & Congdon, 2006). In a review of race and mental health in the United States, Williams and Jackson contend that race "is a marker for differential exposure to multiple disease-producing social factors" (2005: 525) (Williams & Jackson, 2005), which include socioeconomic status and living conditions, as well as access to medical care. This is supported by findings from a cross-sectional study in Bahia, Brazil with a sample size of 2302 adults showed that race had no effect on depression prevalence once confounders were adjusted for and also indicated that previous research on this topic yielded inconsistent results. They illustrate however, that race interacts with gender such that the gender effect (women more commonly affected by mental illness than men) is seen at a larger magnitude in certain ethnic groups (Almeida-Filho et al., 2004).

In an excellent review article by Chakraborty and McKenzie (2002) (Chakraborty & Mckenzie, 2002; Williams-Morris, 2000) the authors distinguish 3 types of racial effects on mental health: interpersonal discrimination, ecological effects (due to racial heterogeneity) and institutional racism. The review indicates that there is evidence for perceived discrimination resulting in higher rates of mental illness (with those who had experienced verbal racial abuse 3 times more likely to have had depression/psychosis), however all this data is cross-sectional with no longitudinal studies having been done. The harmful effects of discrimination are further supported in the review by Williams et al, which reports results from several qualitative studies that suggest that African Americans' subjective experience of racial discrimination puts them at increased risk of mental illness (Williams et al., 2005; Williams-Morris, 2000).

A complex relationship was found between rates of mental illness and ethnic/racial population distribution; an inverted U shaped curve with lowest rates of mental illness at the extremes of racial segregation is described (Chakraborty et al., 2002). The authors make the point that the impact of racism is influenced by individual factors, macro-economics, political ideology and history and argue convincingly that this topic is best explored by qualitative methods. The review cites evidence that those with mental illness are more likely to attribute the cause of their distress to racism than those not mentally ill (i.e. reciprocal causation likely).

A cross-sectional study found an interesting interaction between ethnic group and ethnic density such that the nature of the association between ethnic group and metal illness is dependent on the racial composition of a neighbourhood (with less mental illness seen in areas with greater racial diversity) (Fagg et al., 2006).

Williams et al hypothesise that racial discrimination extends to treatment of mental illness in American health care. There is some evidence to suggest that African Americans are at greater risk of being misdiagnosed, due to

stereotypical misconceptions regarding African Americans' mental health (Williams et al., 2005; Williams-Morris, 2000). Institutional 'racism' in SA may take the form of language barriers in health services (Swartz & Drennan, 2000); this could be seen as a form of indirect racial discrimination. Cross-cultural psychiatry would also contribute to differential ethnic access to health services. This issue should be covered in more depth in the health services section.

Conclusion: There is inconclusive evidence for the race-mental illness relationship which appears to be highly dependent on a range of factors including pre-existing mental illness and racial composition at the neighbourhood level. There is however evidence for the harmful psychological effects of racial discrimination but all this evidence is cross-sectional and as such causality cannot be imputed. The mental health effects of Apartheid were not specifically included here but can be thought to result from racial discrimination, socio-economic inequality, spatial segregation and violence which are discussed elsewhere in this review (Hickson & Kriegler, 1991).

- **The effect of race on mental health is highly context dependent**
- **Racial/ethnic discrimination is associated with worse mental health**; a reciprocal relationship is likely in this instance
- **The mental health effects of institutional racism are inadequately researched**

2.5. Gender Back to Index

(Patel et al., 1999) analysed 5 data sets from developing countries (India, Zimbabwe, Chile and two studies from Brazil) to evaluate the key determinants of common mental disorders (defined as common non-psychotic disorders in this paper) in developing country settings. In all five studies female gender was strongly associated with common disorders with relative risks ranging between 1.2 and 6.5. This finding is consistent with other research in developing country settings including a study by Harpham in Cali, Colombia (Harpham et al., 2004) which identified female gender as the strongest determinant of mental illness in youth aged 15-25 years with

females 3.8 times as likely to have a mental illness as males. The explanations put forward for the gender differential include the social position of women, expectations according to the gender role, and violence against women (Patel et al., 1999).

Chen, Subramanian, Acevedo-Garcia, & Kawachi (2005) explored the effects of the *status of women* on depressive symptoms in 50 American states and found a positive association between low status of women and depressive symptoms where status was measured by economic autonomy, employment opportunities and reproductive rights (each in turn was a significant predictor of the outcome)

Evidence suggests that homosexual individuals have much higher rates of mental illness than heterosexual individuals and that this is in part due 'minority stress' whereby minority groups may suffer from internalised homophobia, expected and actual discrimination (Meyer, 1995; Warner, Mkeown, Griffin, Johnson, & Ramsay, 2004)

Evidence also indicates consistently that men are more likely to abuse substances than women (Nolen-Hoeksema, 2004) with one study reporting a 30% decreased likelihood of substance abuse in females (Kilpatrick, Ancierno, Saunders, Resnick, & Best, 2000). Attention Deficit Hyperactivity Disorder is also more common among males; evidence from population-based studies in the USA in the late 1980s, demonstrates a ratio of 3:1 between adult males and females (American Psychiatric Association, 1987). Among girls and boys with ADHD, one meta-analysis showed definitive behavioural differences between genders on several domains. In the Western Cape schools, the majority of learners referred for delinquency and expulsion are male (Bruce Phillips, July 2006, personal communication).

Conclusion: There is strong evidence that there is a gender differential in the expression of mental distress with women more likely to experience depression and while men are more likely to abuse substances. Homosexual individuals have higher rates of mental illness than heterosexual individuals.

- **Women are up to 6 times as likely as men to develop common mental disorders**
- **Men are more likely to develop substance disorders**
- **Boys are more likely to have behavioural disorders**

2.6. School environment Back to Index

A cross-sectional study (Erhart, Ravens-Sieberer, & Nickel, 2006) of more than 160 000 learners in developed countries (Europe, USA and Israel) found that a large proportion (48%) of the variance in psychosomatic complaints could be attributed to school variables which included social school climate, pressure by schoolwork, academic achievement and whether or not a child liked school. Girls' psychosomatic complaints seemed to be more strongly affected by the school environment than boys.

Students who dislike school are most likely to have poor academic achievement, adopt unhealthy lifestyle behaviours, have psychosomatic symptoms, engage in antisocial behaviours and have a reduced quality of life (Samdal, Nutbeam, Wold, & Kannas, 1998). In terms of what determines a students' attitude towards school, a cross-sectional study (Samdal et al., 1998) of adolescents in four European countries (Finland, Latvia, Norway and Slovakia) showed that the most important determinants of school satisfaction were (in descending order): (1) learners perceiving their treatment by teachers as fair, (2) feeling safe in the school and (3) perceiving teachers as supportive (academically and emotionally). Peer support was only marginally associated with school satisfaction. The findings indicate "the importance of creating a school environment which the students perceive to be safe and justly organised, and which fosters supportive relationships between the students and the teachers" (Samdal et al., 1998). Major limitations of this evidence are the lack of adjustment for socio-economic factors and problems with generalisability to the South African context.

Numerous cross-sectional and cohort studies show that the presence of social support plays an important protective role against depression in young people (Seifer, Sameroff, Baldwin, & Baldwin, 1992; Gore & Aseltine, 1995; Gore, Farrell, & Gordon, 2001; Spence, Burns, Boucher, Glover, & Graetz, 2005); such support includes good peer relations and support from teachers (Cheung, 1995). Children who grow up in a negative family situation are less likely to become depressed if they have a confiding relationship with at least one adult outside the family, or if they are involved in and obtain positive recognition for school or community activities outside the family (Burns, Andrews, & Szabo, 2002). Children with low levels of attachment to family and school tend to experience greater conflict with teachers, have low self-esteem and a stronger identification with antisocial peer cultures (Spence et al., 2005).

A qualitative study (Reckson & Becker, 2005) conducted in Hanover Park, Cape Town speaks to the impact of 'external' factors on the classroom environment. The findings indicated that in the context of gang violence in the surrounding community "the primary stress being experienced by teachers is related to the wider social and political contexts of gang violence" (Reckson et al., 2005). Themes which accounted for increased stress in the school environment here included the need to deal with children's apathy and helplessness in the face of external stressors and violence among learners; this internal stressor was complicated by the fear of retaliation from learners, and the authors note that, "The general experience of teachers was that a 'new kind of learner' – one that is violent and disrespectful toward teachers – was emerging in the school" (Reckson et al., 2005). Therefore, the potential for violence was recognized as a threat from both inside and outside the school. The authors cite evidence from other research which highlights the spill-over of violence into schools with attacks on teachers and pupils, vandalism of the school premises, truancy and drug-use among learners, and general disruption of discipline. Research into teacher burnout done elsewhere suggests that student misbehaviour impacts on the likelihood of

teacher burnout (Hastings & Bham, 2003) which is likely to impact on teachers' ability to cope in these circumstances.

Teachers in Hanover Park felt that they had to motivate their learners before they could begin to teach, this often occurring through maintaining self-perceived multiple roles as a 'psychologist',' doctor' or 'parent'. The presence of law enforcements and police intervention on school premises was also noted as a source of stress, by being a reminder of the apartheid regime, as well as being associated with the continued threat of aggravating violence in school. Teachers' psychological resources were found in this study to be mediators of the effects of these stressors on their mental health. The effect of the teachers' response to these traumas on the mental health of students was not reported.

Research (Hall, Altman, Nkomo, & Zuma, 2006) on teacher morale and stress in South Africa found that 75% of teachers in the Western Cape felt their salary was inadequate and had considered leaving education. Other factors related to desire to leave the profession were: increased workload (70%), growth in class sizes (62%), performing tasks outside of their job description (77%) lack of parental involvement in aspects of their children's education (75%), teacher shortages (68%) learners' limited understanding of the language used to teach (59%) and lack of discipline among learners (68%) and stress due to transformation in education (e.g. curriculum changes). Other research in SA (Peltzer et al., 2005) found that in a 12-month period, 22% of schools had found learners or educators carrying weapons, 18% had had an assault and 14% had fights involving weapons with the highest amount of violence reported in the Western Cape (Shisana, Peltzer, Zungu-Dirwayi, & Louw, 2005).

Intervention studies (including randomised controlled trials) utilising 'low-risk' (whole school) approaches in schools showed no evidence for the effectiveness of school-based prevention of depression (Spence et al., 2005; Bond et al., 2005). Spence et al (2005) however state that these studies have evaluated very brief interventions (8-20 hours) and have excluded changing the school environment itself (Spence et al., 2005). There may be other gains in whole school programmes as evidenced by randomised controlled trials (Burns et al., 2002; Atkins et al., 1998) where intervention groups showed decreased delinquent behaviour and increases in school commitment and attachment. School programs targeting high-risk learners were more successful in preventing depression; a review of these interventions indicates up to a 50% reduction in depression following an intervention using a cognitive approach to the interpretation of adversity (Burns et al., 2002). All of the evidence obtained on intervention studies was from developed country contexts and as such external validity is a concern.

Conclusion: While there is a wealth of data on the effects of 'school climate' on behavioural and emotional outcomes there are several limitations to this data; it is predominantly from developed countries with entirely different contexts and the cross-sectional studies are not convincing in terms of causality given the high likelihood of reciprocal causality and the lack of

adjustment for socio-economic status. There are but a few cohort studies measuring the impact of interventions which to date show impacts of school climate predominantly on behavioural outcomes (including conduct-disorder) rather than on depression. The data presented from South Africa strongly suggests that the school climate is one characterised by teacher burn-out and unhealthy classroom dynamics.

> - **The school climate affects both educational and behavioural outcomes of students; there is no evidence of a direct relationship with depression**
> - **Qualitative evidence suggests that the school climate in some schools of the Western Cape is significantly affected by the spill-over of violence into the schools**

2.7. Personal experience of abuse or violence <u>Back to Index</u>

There is considerable evidence from around the world (Krug, Dahlberg, Mercy, Zwi, & Lazano, 2002) that violent or abusive experiences are associated with mental health problems, and several studies from South Africa that demonstrate similar associations. Such violence might include partner violence, child abuse, or interpersonal violence more generally, and all are associated with disorders that include depression, suicidality, posttraumatic stress disorder and other anxiety disorders, and substance abuse (Golding, 1999; Resnick & Acierno, 1997; Kaplan, Pelcovitz, & Labruna, 1999; Acierno et al., 2000; Kilpatrick & Acierno, 2003; Pelcovitz, Kaplan, DeRosa, Mandel, & Salzinger, 2000; Anda et al., 2006; Lesserman, 2005; Mabanglo, 2002; Mulvihill, 2005; Mulvihill, 2005; Rowan & Foy, 1993).

Although causality is difficult to establish because of the ethical issues in conducting longitudinal studies and randomised controlled trials in the area of violence exposure, several factors indicate that the associations (for instance, between partner violence and mental health problems (Golding, 1999) may be causal (using Bradford Hill criteria) (Hill, 1965):
- o Prevalence rates are higher among battered women than among the general population;
- o Odds ratios calculated in studies where comparison groups are used are high, ranging from 3.55 to 3.80 in studies of depression, suicidality and PTSD, and from 5.56 to 5.62 in studies of substance misuse.
- o The magnitude of associations is consistently observed across different populations.
- o Depression tends to remit once the battering ceases.

The association between partner violence and mental health symptoms has been demonstrated in developing countries as diverse as the Philippines, Egypt, Chile and India (Viscarra et al., 2004). Such violence has also been demonstrated to be associated with children's mental health problems in Brazil (Fleitlich et al., 2001).

In terms of risk factors, exposure and PTSD symptoms appear to follow a dose-response relationship, i.e., the greater the exposure, the more and/or the more severe the symptoms (Golding, 1999; Van der Kolk, MacFarlane, & Weisaeth, 1996). Women may be more likely to experience sexual assault and men more likely to experience physical assault (Kilpatrick et al., 2003; Resnick et al., 1997).

South African literature is mostly cross-sectional, but demonstrates both high rates of exposure to range of violence, and the same associated mental health problems as identified above, in a range of populations (Barbarin, Richter, & De Wet, 2001; Berard & Boermeester, 1999; Berard, 2001; Collings, 1995; Collings, 1997; Jewkes, 2000; Kopel & Friedman, 1997; Marais, De Villiers, Miller, & Stein, 1999; Morojele & Brook, 2006; Peltzer, 1999; Seedat, Nyamai, Njenga, Vythililngum, & Stein, 2004; Ward, Flisher, & Lombard, 2004; Ward, Lombard, & Gwebushe, 2006; Van As, Withers, Du Toit, Millar, & Rode, 2001). Children's Court Inquiry data from the Western Cape shows that in 2005, 0.3% of the province's children had cases of abuse or neglect so severe that a Children's Court Inquiry was initiated (Dawes, Long, Alexander, & Ward, 2006). Given that this is the tip of the iceberg – a UK study suggests that only 5% of all such cases reach the level of a Children's Court Inquiry – the data suggest that 9% of children in the Western Cape experience these severe levels of maltreatment. One study also shows how exposure to intimate partner violence as a child contributes to violent behaviour in adults (Abrahams & Jewkes, 2005). Although most studies in South Africa rely on self-report of symptoms, which may over-estimate rates of PTSD, there is sufficient evidence to consider PTSD a public health problem in South Africa (Edwards, 2005).

Conclusion: There is strong evidence that exposure to interpersonal violence of any form puts people at risk for developing a range of treatable mental health disorders. Evidence from South Africa is that rates of such violence exposure and of the associated mental health disorders are high.

- **Exposure to interpersonal violence puts people at risk of developing mental health problems.**
- **Such problems include depression, post-traumatic stress disorder and other anxiety disorders, and substance abuse.**
- **Rates of both exposure to violence and of related mental health disorders are high in the Western Cape.**

2.8. Community-level violence and social disorganisation **Back to Index**

Social disorganisation refers to disruption in the social structure of a community so that its ability to realise common values and exert social control over members are weakened (Bursik, 1988; Sampson, 1992). High levels of crime and violence in a community are an indicator of social disorganisation (Sampson, 1992).

A review of literature in the developed world indicates that social disorganisation has profound effects on parenting and children's development, including access to adequate pre-natal care (Sampson, 1992). As shown above, parenting can have serious impacts on children's mental health, effects that may persist into adulthood. Most of the studies in this area are cross-sectional, but together amount to a weight of evidence that neighbourhood social disorganisation plays a role in parenting and in mental health. For instance, parents who live in poor, dangerous neighbourhoods have less social support, which is key in terms of its positive influences on parenting. Neighbourhood social cohesion (the opposite of social disorganisation) has been found to buffer the link between hostile parenting and children's externalising problems (Silk, Sessa, Moprris, Steinberg, & Avenevoli, 2004). Mothers' perceptions of poor neighbourhood quality have been found to be related to children's social skills and perceived loneliness, and often mediate through greater supervision and limitation of activities in worse neighbourhoods (O'Neil, Parke, & McDowell, 2001). Mothers in unsafe neighbourhoods have been found to be more likely to be depressed, and so to use inconsistent discipline (Hill & Herman-Stahl, 2002). Communities high in social disorganisation are also likely to be high in child maltreatment (Coulton, Korbin, Su, & Chow, 1995; Coulton, Korbin, & Su, 1999). Poverty is not the deciding factor in terms of effects on parenting, even though it is associated with social disorganisation: qualitative data from the US suggests that social disorganisation can be separated from poverty, and that it is social disorganisation that affects parenting (Furstenburg & Hughes, 1997).

More directly in terms of mental health, children living in socially disorganised neighbourhoods are more likely to come into contact with mental health services – although the risk-increasing effects of social disadvantage are mitigated by neighbourhoods where there is social cohesion (Van der Linden, Drukker, Gunther, Feron, & Van Os, 2003). Social capital appears, from one cross-sectional study, to depend on context for effects: where parents reported low social capital in wealthy neighbourhoods, children were more likely to report internalising disorders, whereas in poor neighbourhoods, children were less likely to report internalising disorders where their parents reported low social capital (Caughy, O'Campo, & Muntaner, 2003).

Effects of the neighbourhood, while robust, may however be small. One UK study finds that individual and family characteristics are far more important than neighbourhood characteristics in their influence on mental health (Propper, Jones, Bolster, Burgees, & Johnston, 2005). By contrast, a review article finds that there is consistent evidence for modest neighbourhood effects on health (including mental health), when individual and family characteristics are controlled (Pickett & Pearl, 2006).

There is very little evidence from South Africa in this area. However, a longitudinal study of a birth cohort of South African children investigated the effects of both personal experience of violence and the experience of living with high levels of community violence. Maternal distress was associated both with family violence and with community danger, and distressed mothers were more likely to have distressed children. Ambient community violence

was associated in children with attention problems, aggression and symptoms of anxiety and depression. Findings were similar regardless of economic advantage or disadvantage (Barbarin et al., 2001). Similarly, a study in the USA finds that adolescents who perceive their neighbourhood as dangerous are more likely to develop depression, anxiety, oppositional defiant disorder, and conduct disorder, a relationship that is mitigated by social stability and social cohesion (Aneshensel et al., 1996).

Conclusion: There is evidence from the developed world that neighbourhoods characterised by high crime rates and social disorganisation affect parenting (and hence a range of outcomes in children) and mental health of both adults and children. Although no studies of this have been conducted directly in South Africa, it is likely that neighbourhoods characterised by high levels of violence and low social cohesion do affect the mental health of their residents.

- **Socially disorganised neighbourhoods are unable to realise common values and exercise social control.**
- **They are likely to be high in crime and violence.**
- **Both the danger in the community and the disrupted community ties increase the difficulty of parenting, thus putting children at risk for developing mental health problems.**
- **Ambient community violence increases risk for mental health problems in both children and adults.**

2.9. Crime Back to Index

Outside of personal experiences of violent crime (section 2.7.), evidence linking actual crime rates to mental illness prevalence is scarce; only one cross-sectional study (Chaix, Leyland, Sabel, Chauvin, & Rastam, 2006) was found with crime rate as an exposure and although it showed a positive correlation with mental disorders secondary to substance use (but no association with neurotic or somatoform disorders), this relationship would clearly be confounded by substance use which is independently associated with both the exposure and the outcome. This confounder was not adjusted for.

The evidence is predominantly for the association between *fear of crime* and the prevalence of common mental disorders (Aneshensel & Sucoff, 1996; Whitley et al., 2005; Chandola T, 2001) (positive association) and self-rated health (Chandola T, 2001) (negative association) but most of this data is based on cross-sectional studies therefore it is impossible to establish temporality. Confounders were adequately adjusted for in these studies. As regards the direction of causality, it seems reasonable to postulate a *reciprocal* association between mental illness and fear of crime (Whitley et al., 2005) as illustrated in the qualitative evidence. There are two longitudinal

studies: one (Dalgard & Tambs, 1997) is of poor quality and the other (Halpern, 1995) evaluates fear of crime and mental illness at baseline and then at 3 years follow-up after improvements to a housing estate area in the UK. While a statistically significant association between fear of crime and CMD is found the author cannot convincingly disentangle this effect from the other positive effects of the refurbishments.

Fear of crime does not affect all individuals equally (Ellen, Mijanovich, & Dillman, 2001; Macintyre, Ellaway, & Cummins, 2002): a qualitative study suggests that low-income women with children, the elderly and those with mental illness are particularly affected (Whitley et al., 2005). Women were also shown to be at increased risk by Chandola (2001) (Chandola T, 2001). We can further postulate that those who spend more time in a neighbourhood of high crime will be most affected (e.g. the unemployed).

The effect of 'fear of crime' on mental illness is thought to occur via two mechanisms: firstly the effect on negative affect, and secondly by creating 'time-space inequality' which refers to a restriction of movement in terms of time (e.g. not going out after dark) and /or space (avoiding certain areas) which limits social engagement, participation and access to social support (Whitley et al., 2005).

Most of the data is from developed country settings but this is unlikely to affect external validity as if these effects are seen in the developed countries they would surely be as strong, if not stronger in the developing country context.

Conclusion: Although the majority of evidence is cross-sectional it seems reasonable to conclude a reciprocal relationship between 'fear of crime' and mental illness. Actual crime rates would in all likelihood be associated with fear of crime and thus we can reasonably argue that crime has a negative effect on mental health.

> - **The evidence supports a reciprocal relationship between *fear of crime* and mental illness; with the exclusion of violent crimes, population crime rates as risk factor for mental illness has not been sufficiently researched.**

2.10. Death, disease or trauma in the immediate social group or family

The definition of "trauma" for mental health purposes includes "learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate" (American Psychiatric Association, 1994), p.424. The findings of many of the studies related to violence exposure thus apply here, although death or trauma in one's immediate social group may not be explicitly mentioned or explored in these studies. Findings from the developed world suggest that severe unexpected stressors (including serious illness, death, violence, and both natural and man-made disasters) place significant strain on family functioning

(Kiser, Ostoja, & Pruitt, 1998). In addition, trauma in one generation of a family may result in poor mental health in members of other generations (Abrams, 1999).

Review articles indicate that caregivers of the mentally ill carry a significant burden that may impact their own mental health, or affect the status of the mentally ill family member (Baronet, 1999; Goldman, 1982; Loukissa, 1995; Maurin & Boyd, 1990). With regard to children, chronic illness in a child may change the family dynamics towards being more structured and less emotionally warm and communicative, and families with high levels of criticism may have more difficulty in ensuring adherence to treatment (Wamboldt & Wamboldt, 2000). Although a comprehensive literature review has not been conducted to explore all illnesses and their effects on the family, it appears that (similarly) other forms of illness may burden the family, and may lead to mental health problems in family members of the ill person (Williams, 1997; Stukas et al., 1999). In the same way, the presence of an HIV-positive person in the family may lead to mental illness in family members (Roth, Siegel, & Black, 1994; Kennedy, Skurnick, Foley, & Louria, 1995).

The specifically South African literature on the effects of death, disease or trauma in the immediate social group or family is sparse. However, the South African literature that is available is aligned with findings in the developed world literature (Varga, 2005; Greeff & Human, 2004; Opperman, 2003; Freeman, 2004; Mtalane, Uys, & Preston-Whyte, 1993).

Conclusion: Death, disease or trauma in the family places a tremendous burden on the caregiver, as well as other family members, and places the family members of the ill, traumatised or deceased person at risk for developing mental health problems. Where a family member is mentally ill, stress on the caregivers could cause interactions that affect the likelihood of the mentally ill family member maintaining a stable level of functioning or becoming worse. A particular concern is raised by the HIV pandemic in sub-Saharan Africa, which will increase rates of death and hence, potentially, rates of mental illness in family members of the deceased.

> - **Death, disease or trauma affects the caregiver and other family members, who are at risk of developing mental health problems.**
> - **The burden of caring for a mentally ill person may place enough stress on the family system that prognosis for the mentally ill person worsens.**

2.11. Human rights [Back to Index]

No evidence was found linking the degree of human rights realisation and mental health, however the following sections in Chapter 2 of the South African Constitution are likely to be relevant to the attainment of mental health:

Section 10. Human dignity
Section 12. Freedom and security of person
Section 13. Slavery, servitude and forced labour
Section 14.Privacy
Section 15.Freedom of religion, belief and opinion
Section 17.Assembly, demonstration, picket and petition
Section 21. Freedom of movement and residence
Section 23. Fair Labour practices
Section 24.Environment
Section 25. Property
Section 26.Housing
Section 27.Health care, food, water and social security
Section 28.Children
Section 29.Education
Section 30.Language
Section 32.Access to information

There are several articles about achieving a human rights culture in South
Africa however they focus on the institutional determinants of achieving this
'culture' (e.g. the Human Rights Commission and the Constitutional Court)
rather then the effects of the absence of a 'culture of human rights'.

> - **No research on this topic was found**

2.12. Family systems [Back to Index](#)

Families are important arenas for their members in terms of either risk for or
protection against mental health problems. Most research has focused on
parenting and mental health outcomes for children.

A review of the literature from largely the developed world identifies that
families characterised by conflict and aggression and by cold, unsupportive
and neglectful relationships, create vulnerabilities or interact with congenital
existing ones in children that increases risk for mental health disorders (as

well as major chronic diseases and early mortality) (Repetti, Taylor, & Seeman, 2002). Parental monitoring and discipline are important in the development and outcome of externalising disorders; differential parental treatments of one sibling are critical in internalising disorders; and criticism is associated with poor outcome of both medical and psychiatric disorders in children (Wamboldt et al., 2000). This is true even in infancy: infant development is significantly compromised by such negative family environment factors as poor infant-caregiver attachment, parental psychopathology, marital quality, and family violence (Zeanah, Boris, & Larrieu, 1997). A retrospective examination of parenting and current adult mental health showed that parenting characterised by low care and high control was associated with significantly higher numbers of adult problems with interpersonal relationships, and hence with adult mental health problems (Wadworth & Kuh, 1997).

Children of affectively ill parents (who may struggle with maintaining warm relationships with their children and with monitoring them) have a 40% chance of experiencing a major depressive episode by the age of 20, and are also likely to exhibit general difficulties in functioning (that may be brought to the attention of the mental health system), such as increased guilt, attachment difficulties and interpersonal problems (Beardslee, Versage, & Gladstone, 1998). A large national cross-sectional study of children and adolescents in the UK found that children with mental health disorders were significantly more likely to be living with a parent with a mental health disorder, and/or in a family with unhealthy functioning, than children without mental health disorders. Causality cannot be assumed from this: some parents indicated that their child's disorder had strained relationships with partners and other family members, and had had negative effects on their own mental health (Meltzer, Gatward, Goodman, & Ford, 2003).

Both substance abuse and behavioural problems are influenced by parenting. The family environment, among other factors, plays a role in etiology of adolescent substance abuse (Weinberg, Rahdert, Colliver, & Glantz, 1998), while attachment to family and to school lowers the risk of adolescent deviance (Dornbusch, Erickson, Laird, & Wong, 2001); this may be true even in the face of negative peer influence (Galambos, Barker, & Almeida, 2003). Fathering that is less responsive and sensitive to infant needs may also predict externalising behaviour in school-aged children (Trautmann-Vilalva, 2006).

Other strains on the family also place children at risk. A longitudinal study of a British birth cohort followed from birth to age 33 indicates that parental divorce increases risk for children's mental health problems, and such problems may endure into adulthood (Cherlin, Chase-Lansdale, & McRae, 1998). A longitudinal study in the US suggests that the context in which children live both directly affects their mental health and indirectly affects it through the parenting that receive: persistent poverty was found to be associated internalising disorders and current poverty with externalising disorders, while mothers living in current poverty were only weakly emotionally responsive to their children and frequently used physical

punishment, which explains the effects of current poverty on children's mental health (McLeod & Shanahan, 1993).

In terms of South Africa, there is sparse literature about mental health problems aside from substance abuse. Studies do indicate that maternal depression is prevalent, and confirm that in this context, too, this potentially places both the child's physical and neuro-emotional development at risk (Richter, 2003). This is confirmed by an intervention study (Cooper, 2002). Another large cross-sectional study found that interparental conflict increased risk for negative psychological and social functioning of adolescents, both directly and indirectly through parenting (Bradford et al., 2003). One example, a cross-sectional study, found that 50% of the children of eating-disordered mothers were suffering from emotional difficulties (Evans, 1995). Studies examining family problems among suicidal and parasuicidal adolescents found that they reported higher rates of poor family functioning than controls (Pillay, 1997b; Pillay, 1997a). Children whose parents are less available to them appear to be at high risk for sexual, physical and emotional abuse (Madu, 2002). There are, however, a number of studies of substance abuse among South African adolescents that implicate family functioning and/or parenting as playing an etiological role (Brook, Morojele, Zhang, & Brook, 2006; Brook, 2006; Morojele et al., 2006; Pretorius, 1999; Madu & Matla, 2003).

Conclusion: Family functioning plays a key role in children's development, from infancy through adolescence. Poor bonding with parents and poor family functioning places children at risk for a range of mental health problems, including substance abuse. The effects of family problems and poor parenting may endure and influence mental health in adulthood. Conversely, good parenting appears to play a protective role. Parenting itself is influenced by other, more distal factors, such as family poverty or living in a poor environment.

> - **Family functioning plays a key role in children's mental health and substance abuse: good family functioning is protective, while poor family functioning places children at risk.**
> - **These effects can endure beyond childhood into adulthood.**
> - **Parenting is influenced by contextual factors, such as poverty, which may make it more difficult to be a good parent.**

Selected Individual Factors

3.1. Substance use

The contribution of alcohol and other drugs to the burden of disease is multifactorial. Firstly, substance use affects mental health via the biological association between substance abuse and mental health outcome through two mechanisms: (a) the use of addictive substances may lead to dependence, and this in itself is a mental health outcome (Obot, 2006); (b) through the direct action of the drug on the body – for instance, alcohol is a central nervous system depressant and dependence may contribute to the development of depression (Petrakis, Gonzalez, Rosenheck, & Krystal, 2002). Secondly, substance misuse has a range of costly health, legal and social outcomes, including contributions to interpersonal violence, death and injury in road traffic accidents, increased levels of risky sexual behaviour, and relationship problems that may affect mental health (Obot, 2006). In addition, it may worsen the prognosis for existing mental health disorders (Strakowski, Del Bello, Fleck, & Arndt, 2000; Swofford, Kasckow, Scheller-Gilkey, & Inderbitzin, 1996).

Studies from around the world indicate that there are strong bi-directional associations between substance use and mental illness. Large studies in the US population indicate that, with regard to alcohol abuse (not dependence, which is a more severe problem), 12.3% of those who met criteria for alcohol abuse also met criteria for a mood disorder, and 29.1% for an anxiety disorder (of which post-traumatic stress disorder was the most common) (Petrakis et al., 2002). Percentages were much higher with regard to alcohol dependence: of those diagnosed with alcohol dependence in the past year, 29.2% had a comorbid mood disorder and 36.9% a comorbid anxiety disorder (Petrakis et al., 2002). A large population-based study in Australia found that 0.5% of the Australian population had both PTSD and a substance use disorder; among those with PTSD, alcohol use disorders were most common (24.1%); PTSD was most common among those with an opioid use disorder (Mills, 2006).

Causality, however, seems to be bi-directional. For instance, there is strong evidence that substance use (use of cannabis, amphetamines and hallucinogens) may precipitate brief psychotic disorders, but substances may also be used to mitigate symptoms of longer-term psychotic disorders (Phillips & Johnson, 2001). Amphetamines may, however, play an important role in adding to the burden of disease in the Western Cape through inducing brief psychotic disorders, simply because use of amphetamines ("tik") is reportedly high and appears to be increasing (Parry, Myers, & Plüddeman, 2004). Similarly, alcohol use disorders often precede the onset of a depressive disorder, particularly in men (Petrakis et al., 2002). Again, alcohol use is very high in South Africa: preliminary estimates of the total burden of alcohol in terms of death and disability is 6-7%, ranking third after unsafe sex and interpersonal violence (Parry & Dewing, 2006). Although South Africa's recorded per capita consumption is lower than European countries, the pattern of drinking among South Africans has high potential for causing

health or social harm (a pattern comprised of high numbers of heavy drinking occasions, high usual quantity of alcohol consumed, drinking in public places, and drinking at community festivals) (Obot, 2006).

Yet another aspect of substance use disorders that should be considered in terms of the burden of disease is that adolescent substance use can be predicted by parental substance use (Biederman, Faraone, Monuteaux, & Feighner, 2000). Although many causal factors play a role in adolescent substance use, this suggests that the burden caused by adolescent substance misuse may be reduced by treating parental substance misuse.

Substance use during pregnancy and during infancy is another risk factor for increasing the burden of disease, as prenatal substance exposure can lead to a range of mental health problems (Höök, 2006; Fischer, Bitschnau, Peternell, Eder, & Topitz, 1999; National Institute on Alcoholism and Alcohol Abuse, 2000).

Conclusion: There is thus strong evidence that substance use is causally associated with mental health disorders, either through direct causation or through worsening prognosis. Particular examples include the role alcohol plays in causing depression, and cannabis and amphetamines in causing brief psychotic disorders. The extent to which this plays a role in the burden of mental illness in the Western Cape will be influenced by the prevalence of substance misuse. Both alcohol use and methamphetamine use are high in the Western Cape, and so may play a larger role in the burden of mental illness than they might otherwise. Substance abuse during pregnancy also plays a role in the likelihood that children will later develop mental health disorders.

> - **Substance abuse plays a role in causing mental illness and in worsening prognosis of existing mental health problems**
> - **High rates of substance abuse in the Western Cape (particularly of alcohol, cannabis and amphetamines) indicate a relatively high contribution to the burden of mental illness**

3.2. Sexual health

There was very limited literature on the mental health effects of sexual activity (sexual risk behaviour); the majority of evidence in the literature pertains to mental illness and psychological factors as risk factors for sexual risk behaviour (typically in the context of HIV).

In terms of the mental health benefits associated with sexual activity, Segraves (2002, p. 419) postulates that "Intimate sexual activity can serve as a vehicle for a sense of emotional connection to another person, and intimate relationships may serve as a buffer against the emotional impact of life stress". This association between sexual and relationship health was found in a cross-sectional study looking at sexual satisfaction in adolescents where sexual satisfaction positively correlated with romantic relationship health after other factors were adjusted for.

Sexual dysfunction is found to be common with the prevalence of female sexual disorders in developed countries being more than 40% in several studies with the commonest problems reported being low libido (33%) and difficulty reaching orgasm (24%) (Segraves, 2002). Sexual dysfunction is highly comorbid with many psychiatric disorders; for example, patients with psychosexual disorders have been found to have a higher lifetime prevalence of affective disorders (Segraves, 2002).The prevalence of psychiatric disorders among STD clinic attendees was high with 45% having an Axis I disorder and 29% meeting criteria for an axis II personality disorder. Although these rates are higher than those expected in the wider population, the analysis did not adjust for important potential confounders such as socio-economic status. Furthermore, as a cross-sectional study, it is not possible to determine the chronology of the association (Aral, 2004).

In terms of sexual risk behaviour, the literature is predominantly focused on adolescent sexual health, most likely as a result of the preponderance of HIV risk in the youth. Early sexual debut (sex before 15 years) is increasingly common: the 2005 HSRC HIV prevalence study (Shisana et al., 2005) found that although the average age of sexual debut among South African youth was 17 years the trend is towards earlier sexual debut among younger respondents which is confirmed by other local studies and is a global trend (Kelly & Parker, 2000). A systematic review of unsafe sexual practices by South African youth by Eaton et al (2003) concluded that at least 50% of youth are sexually active by the age of 16 years (Eaton, Flisher, & Aaro, 2003). Furthermore, the length of time between establishing a relationship and having sex appears to have shortened (Kelly et al., 2000). Early sexual debut has been found to be associated with other sexual risk behaviours; a cross-sectional study in rural KZN found that men who had their sexual debut before age 15 were less likely to use a condom and were 10 times more likely to have more than 3 partners in the last 3 years (OR=10.26, p<0.01) (Harrison, Cleland, Gouws, & Frohlich, 2005). This finding is confirmed by findings in a longitudinal study in the USA which found that youth who have an early sexual debut go on to have an increased likelihood of multiple partners, being involved in a pregnancy, and having had sex while intoxicated (O'Donnell, O'Donnell, & Stueve, 2001)

The clustering of risk behaviour in adolescents is also important to note; a cross-sectional community study of children and adolescents at four sites found significant covariation between substance use, sexual activity, violent behaviour and suicidality. As such the authors conclude that these risk behaviours cluster together and are likely to share common aetiologies (Flisher et al., 2000). Other sexual activities that may impact on mental health are multiple sexual partners and sexual relationships that include transactional sex. The 2005 HSRC study found that the youth (15-19yr olds) showed the highest rates of multiple partners, with 37.5% having had more than one partner in the last year and 33% of women (15-65+ years) had a sexual partner five or more years older than themselves. According to (Kelly et al., 2000), age differentials were usually ascribed to material exchanges and gains in status (Kelly et al., 2000).

McKee, Karasz, & Weber (2004) describe the stresses of ordinary sexual debut and the lack of services and support to assist adolescents with these stressors: sexual health concerns were typically thought to threaten the mother-daughter relationship and as such these adolescents turned to their peers, siblings or other female relatives. They described these sources as providing support but unable to provide the necessary information needed. Sexual debut and sexual activity was experienced as "profoundly threatening" to physical health, privacy, relationships in the family and ultimately to one's future. The needs for information paralleled these fears with information on screening, family planning and the diagnosis and treatment of sexual symptoms being sought. Girls reported intense distress associated with unmet needs for this information. Bearing these findings in mind, one can hypothesise about the mental health effects of sexual debut in South African youth where only 56% of sexually active females used a condom at their last intercourse and 57% had never used contraception (Shisana et al., 2005).

In terms of the association between youth sexual activity and mental illness, only one study was found that examined sexual activity as a risk factor for mental illness. A cross-sectional study of a nationally representative sample of 14-17 year old high school attendees in the USA found that sexually active adolescents were 2-3 times as likely to report a depressed mood and 3-8 times more likely to attempt suicide than their sexually inactive counterparts (Rector, Johnson, & Noyes, 2003). These associations persisted after adjustment for race, gender, age and family income. Other potential confounders, such as self-esteem, were not adjusted for. The major limitation of this study is that the direction of causality cannot be established and a reciprocal association is likely.

Conclusion: There is a wealth of cross-sectional evidence that sexual dysfunction (as defined by DSMIV) is comorbid with psychiatric disorder. Early sexual debut has been shown to be associated with further sexual risks (e.g. multiple partners and pregnancy) and other risk behaviours including substance abuse, violence, suicide and depression, however the direction of causality is unclear due to the clustering of these behaviours and a likely shared aetiology. Qualitative evidence is highly suggestive of the crisis of sexual debut for adolescents in general and the importance of appropriate health services to address these developmental needs.

> - **Sexual dysfunction is highly comorbid with psychiatric disorders**
> - **Early sexual debut is associated with other sexual risk behaviour, substance abuse, violence, suicide and depression; reciprocal causality and shared aetiologies probably account for this 'clustering of risk'**

3.3. HIV/AIDS Back to Index

The national prevalence of HIV in South Africa is estimated to be 10.8% in the population of 2 years and older (Nelson Mandela Foundation and Human

Sciences Research Council, 2005). There is strong evidence of an association between HIV and mental illness with HIV-positive individuals at significant risk of experiencing mental illness (Ciesla & Roberts, 2001; Dube, Benton, Cruess, & Evans, 2005; Collins, Holman, Freeman, & Patel, 2006).The mental health effects can be understood in terms of the direct consequences of viral infection and the associated pathology in the central nervous system, as well as the psychological effects of the psychological stressors surrounding HIV.

Neuropsychiatric manifestations of HIV/AIDS include HIV-associated dementia (HAD) and minor cognitive and motor disorder (Dube et al., 2005). HAD is associated with a higher plasma viral load, however this relationship has not been shown to be reciprocal – elevated levels of HIV in serum do not always lead to HAD (Dube et al., 2005). Studies of HIV positive children have also shown comparative increases in motor and cognitive deficits. There is limited evidence to suggest that the effects of highly active antiretroviral therapy (HAART) may precipitate or exacerbate neuropsychiatric symptoms (Dube et al., 2005; Raines, Radcliffe, & Treisman, 2005).

Common psychiatric disorders experienced by HIV-positive people include depression, mania and psychosis. The onset of mania in HIV-positive individuals is associated with cognitive changes and HAD, at the time of the onset of AIDS (defined as AIDS mania), or due to a pre-existing bipolar disorder, which manifests quite early on in the disease pathogenesis. Psychosis is the least prevalent manifestation of AIDS-related mental illness, relative to the mood disorders (Cruess et al., 2003; Dube et al., 2005).

A meta-analysis of the relationship between HIV and major depressive disorder showed that the outcome is approximately twice as common in HIV-positive people, when compared to HIV-negative people (Ciesla et al., 2001). A systematic review by Collins et al (2006) concurs with these results and found consistently higher rates of depression in HIV positive cases when compared to seronegative controls. Findings also showed that individuals with advanced stages of the disease had similar rates of depressive disorder, compared to asymptomatic individuals (Ciesla et al., 2001). Limitations of the evidence include wide variations in the settings and study tools and poor generalisability of results due to many studies being conducted in specific settings (STD clinics, medical wards, antenatal clinics).

While results from the meta-analysis suggest that rates of depression remain stable with disease progression, the authors argue that recognition of the period after receiving a positive test result is most critical for an HIV-positive individual, because it is associated with high levels of vulnerability and psychological adjustment (Ciesla et al., 2001). Evidence from the above mentioned South African study of 149 recently diagnosed HIV-positive participants, shows that 14% met the criteria for PTSD. The authors argue that PTSD is not an 'uncommon' disorder in individuals with HIV/AIDS in the South African context (Olley, Zeier et al., 2005).

Investigations of the psychosocial correlates of depression have found that poor family relationships, lack of social support, poor coping styles, alcohol

abuse, HIV related stressors and Aids in a spouse were positively associated with poor mental health outcomes. The main stressors named by participants were disclosing HIV status, financial stressors, and problems with the family (Collins et al., 2006). Evidence for the effects of stigma on mental illness was surprisingly difficult to find, but "HIV positive persons with high levels of felt stigma constitute a highly vulnerable group among the PLWHA in the Dominican Republic, whose increased risk of being negatively affected by low self-esteem, depression and lack of social support, demands specific counseling and intervention strategies in order to increase their quality of life and enhance their ability to effectively cope with their health condition" (Miric, 2004).

Access to antiretroviral treatment is an important mediator of the HIV-mental health relationship with a significant decrease of anxiety and depression in HIV-positive individuals after 12 months of HAART treatment (Jelsma, Maclean, et al., 2005), which suggests the protective effect of treatment for HIV-positive individuals.There is however, also a concern that with increased access to treatment, and subsequent increased lifespan, there will be a greater likelihood of HIV-positive individuals experiencing neuropsychiatric effects of the disease (Dube et al., 2005; Raines et al., 2005).

In the South African context, poverty-related stressors, such as unemployment, poor education, and the experience of violence, crime and discrimination, are strongly related to HIV/AIDS risks. Kalichman makes the salient point that, "people living in some of the highest HIV prevalence communities in the world do not experience AIDS as unique among social stressors" (Kalichman et al., 2006)
The impact of orphanhood through loss of a parent to HIV/AIDS on the mental wellbeing of South African children is another issue requiring consideration. An MRC policy brief (2002) estimates that by 2015, approximately 15% of all South African children may be orphaned, in the absence of effective health care and behavioural change interventions (Bradshaw, Johnson, Schneider, Bourne, & Dorrington, 2002). Orphans are at risk fo rmental illness even before the death of a parent, because they are frequently exposed to the trauma of witnessing the suffering of a parent, while providing much of their care. Multiple losses can be experienced through the death of not only parents, but perinatally-infected siblings. Evidence from South Africa suggests that AIDS orphans experience social stigma, shame and bullying, and seldom have the opportunity to speak to others about bereavement (Bray, 2003). In a recent matched case-control study of the mental health outcomes of Cape Town children orphaned by AIDS, investigators found orphans were more likely to display symptoms of PTSD than controls. While being the first of its kind to use a standardised tool, limitations of this study include the reliability and validity of the instrument in light of cultural interpretations of mental illness. Despite this, the researchers indicate that their findings suggest that AIDS orphans have unmet mental health needs, particularly in light of the increase in child headed households and street children (Cluver & Gardner, 2006).

Conclusion: There is strong evidence for the association between HIV and mental illness with HIV resulting in a wide-spectrum of mental disorders. A range of environmental and individual factors influence this relationship; among them access to HAART has been found to decrease rates of mental illness.

- **HIV positive individuals are at a much higher risk for mental disorders**
- **The risk for mental illness depends on a range of individual and environmental factors**
- **The risk for mental illness decreases with access to HAART**
- **AIDS orphans are at risk for developing mental illness**

3.4. Life events <u>Back to Index</u>

The literature defines life events as "specific undesirable occurrences or changes" (Norris & Murrell, 2006). The need arose to develop a contextual approach to the rating of life events, in order to create more dimensionality in the assessment of life events and their outcomes. Evidence has shown the Life Events and Difficulties Schedule (LEDS) method using in depth qualitative interviewing, developed by Brown and Harris (1978), to be an accurate assessment (Kessler, 1997).

Much evidence exists to suggest that exposure to stressful life events is associated with higher levels of mental illness, for example, psychological distress, depression, self harm, substance abuse and suicide (Dohrenwend, 2000; Lantz, House, Mero, & Williams, 2005).

A review of life events and affective disorders shows through a multitude of retrospective case-control studies, that cases experienced more life events prior to onset of depression than controls (Paykel, 2003). It has also been found across case control studies of patients with other primary diagnoses, that those with depression have higher rates of preceding life events than controls. This has also been found in the context of substance abuse (alcohol and heroin abuse) and schizophrenics (Paykel, 2003).

The exact causal nature of the relationship between the occurrence of stressful life events and depression to an extent remains unclear. While the evidence shows consistently that there is an association between life events and the onset of depression; these associations are generally proved stronger when contextual measures are used (Kessler, 1997). The evidence also suggests a dose-response relationship between life events and depression, but only a minority of individuals exposed to life stressors, actually get depression. Recall bias is a methodological problem in the study of this association, as is the reciprocity of causation. Investigators have attempted to distinguish between dependent life events (which are secondary to depression, and a consequence of personal action), and independent events (which are events that are not a result of mental illness). Independent events have been found across studies to be predictive of depression. The

methodological problem of recall bias is still a limitation of these studies (Kessler, 1997).

Furthermore, confounding factors play a particular role in the onset of depression (Kendler, Thornton, & Gardener, 2001). There is evidence to suggest that a genetic predisposition to risk of exposure to life events (for example, neuroticism), may lead to self-selection into high-risk environments (Fergusson & Horwood, 1987), furthermore, these genetic risk factors are positively correlated with risk factors for depression (Kendler, Karkowski, & Prescott, 1999). Kendler et al. (1999) report in a cohort study of female twins, that while a substantial causal relationship between independent stressful life events depression exists, approximately one third of this association is explained by genetic predisposition to major depression.

Other factors which have been shown to affect the life events- depression relationship include access to social support, personality traits, cognitive and appraisal abilities, coping strategies and interpersonal skills (Kessler, 1997). In one review of the risk of late life depression, a lack of social contact was associated with increased risk in some, but not all studies, hence illustrating the complexity of measuring social relationships (Bruce, 2002).

In that most sources of stress are social in origin, it is contended that socially disadvantaged individuals with limited resources are more likely to experience more stress over the life course than their advantaged counterparts. A study by Lantz et al showed that there was indeed differential exposure to stressful life events between different socio-economic strata, which did in turn have an effect on *general* health, as opposed to mental health outcomes (Lantz et al., 2005). Unfortunately no studies were found which examined the mental health effects of life events when controlling for socio-economic status.

Developing countries also experience higher rates of morbidity and mortality in general which is exacerbated by the impact of HIV/AIDS and poverty, with which comes the burden of caring for the sick and dying, followed by bereavement (Kendrick, 1999; Seale, 2000) These constitute stressful life events that are more prevalent as risk factors for mental illness in the South African context. Increasing numbers of people living with AIDS (PLWAs) are receiving home-based care; a qualitative study of the mental health consequences of care giving shows that, "Insufficient support, lack of income and dire poverty experienced by most respondents, and the added responsibilities of caring for other household members exacerbated the psycho-social impact" (Orner, 2006).

Conclusion: There is strong evidence of the association between stressful life-events and common mental disorders; the evidence suggests that causality is bi-directional and mediated by a host of individual and environmental factors.

Critical periods of risk

4.1. Early child development

The critical nature of the early years (early child development) is revealed by studies of institutionalised children deprived of proper care and human contact. Children raised under such circumstances reveal a number of abnormalities, including serious medical problems, physical and brain growth deficiencies, cognitive problems, speech and language delays, sensory integration difficulties and stereotypies, and social and behavioural abnormalities. Of the latter, several may need mental health treatment: difficulties with inattention and/or hyperactivity; disturbances of attachment; and an autism-like syndrome (Zeanah et al., 2003).

Substance abuse during pregnancy is another risk factor for later mental health problems. The use of tobacco, alcohol, heroin, cocaine, and amphetamines all place the foetus at risk for low birthweight and preterm labour (Fischer et al., 1999) which in turn may compromise infant neurological development and hence have implications for later development. For instance, such infants may later develop difficulties in attention, problem-solving, learning and memory (Fischer et al., 1999). Those with foetal alcohol syndrome may also manifest features of autism (impairments in social interaction and communication) in childhood, and in later life are at relatively high risk for depression (National Institute on Alcoholism and Alcohol Abuse, 2000). Maternal smoking pre- and post-pregnancy has been associated with children's externalising disorders (Höök, 2006).

Other risks for infant development are posed by poor maternal mental health. Studies of post-natal depression find that depression compromises the mother-infant bond, which may have long-term implications for the child's mental health (Spence, Najman, Bor, Callaghan, & Williams, 2002).

Conclusion: There is mounting evidence from longitudinal studies that early infancy is a critical period for infant development. Substance abuse pre- and post-natally poses a significant risk for a broad range of infant development outcomes. Interactions with parents that promote bonding and include appropriate levels of stimulation are essential, indicating that interventions for maternal mental health may reduce the burden of mental illness in the subsequent generation.

- **Maternal substance using during pregnancy and infancy may increase risk for children's later mental health problems**
- **Children need interactions with caregivers that promote bonding and provide stimulation; else they may be at risk for poor mental health**
- **Poor maternal mental health may place children at risk for mental health problems**

Adolescence is another critical period form the point of view of mental health. The prevalence of psychiatric disorders in adolescence is of a similar magnitude to that among adults. Many studies in which the prevalence rates of mental disorders of young people are reported have samples that include children. Furthermore, they do not stratify the prevalence rates such that those applicable to adolescents can be ascertained. We attempted to identify all community-based epidemiological studies that included adolescents aged 10 to 19 years only (or, if the sample included other ages, the prevalence data are stratified such that the rates for adolescents could be ascertained) that were published since 1995 and which used a structured diagnostic instruments (Patel, Flisher, & McGorry, 1996). The rates of mental disorders ranged from 8.4% (among Dutch youth) to 29.4% (for high risk Native Americans). Taking these studies together, one can expect that about 1 out of every 5 or 6 young people in the general population is suffering from at least one mental health problem. There is no reason to think that this estimate would not be applicable for South Africa. (Kleintjes et al., 2006) used an expert opinion approach to produce estimates of the prevalence of psychiatric disorders among children and adolescents in the Western Cape, and found that about 17% suffered from a psychiatric disorder.

It is important to recognize that these disorders do not represent minor and transient responses to the normal challenges faced by children and adolescents. If this were the case, child and adolescent psychiatric disorders would have limited public health significance. On the contrary, they are associated with a great degree of impairment; have an enduring longitudinal course; attract a considerable financial burden into adulthood; and are associated with risk behaviours that present immense public challenges (Flisher, Hatherill, & Dhansay, 1996)

There are two types of studies that address the longitudinal course of child and adolescent psychiatric disorders. First, there are studies that "look back", by documenting the proportions of people with disorders in adulthood that had an age of onset in childhood or adolescence. The most sophisticated of these studies was conducted by Kessler et al. (2005). They reported that 75% of all adults with psychiatric disorder had an age of onset of 24 years or less; 50% had an age of onset of 14 years or less; and 25% had an age of onset of 7 years or less. For anxiety disorders, the corresponding ages were 21, 11 and 6 years or less. Second, there are studies that "look forward". There is good evidence of continuity of disorders that manifest themselves in childhood or adolescence into adulthood, especially for major depressive disorder (in comparison to non-depressed control subjects, depressed adolescents are at 2-7 times increased odds of being depressed as adults (Harrington et al., 1990); attention deficit hyperactivity disorder (the features of which persists from childhood into adolescence and adulthood in about two-thirds of cases) (Flisher, 2000); and autistic disorder (which is almost always is associated with lifelong impairment) (Howlin, Goode, Hutton, & Rutter, 2004). In conclusion there is evidence from studies that "look back" and "look forward" of considerable continuity of psychiatric disorders from

childhood to adulthood. While these studies have been conducted in high-income countries, there is no reason to think that they would not be applicable in South African as well.

Given the continuity of psychiatric disorders from childhood or adolescence into adulthood, there are also economic implications of child and adolescent psychiatric disorders that persist into adulthood. The existing data confirm that the long-term costs associated with child and adolescent psychiatric disorders are large. For example, the treatment costs for youth with ADHD are approximately double those for youth without ADHD (Leisbon, Katusic, Barbaresi, Ransom, & O'Brien, 2001); the cumulative costs of public services utilized through to adulthood by individuals with antisocial behaviour in childhood were 10 times higher than for those with no antisocial behaviours by the age of 28 years (Scott, Knapp, Henderson, & Maughan, 2001); and the annualised cost in adulthood for those who suffered from both depression and conduct disorder was more than double that of the group with major depression alone (Knapp, McCrone, Fombonne, Beecham, & Wostear, 2002). While the details may be different in South Africa, again there is no reason to think that three are not long-term economic implications of psychiatric disorders in adolescence.

There is robust international (Flisher et al., 2000) and South African (Flisher & Chalton, 2001a; Flisher et al., 1996; King et al., 2004; Liang, Flisher, & Lombard, 2003; Mpofu, Flisher, Bility, Onya, & Lombard, 2005; Mpofu, Flisher, Bility, Onya, & Lombard, 2006; Palen, Smith, Caldwell, Flisher, & Mpofu, 2006) evidence that there is covariation between risk behaviours such as violent behaviour, sexual behaviour, suicidal behaviour, dangerous road-related behaviour, and use of tobacco, alcohol and other drugs. Furthermore, this cluster of risk behaviours appears to share common correlates, for example psychiatric disorder. This has been established both for the cluster as a whole (Flisher et al., 2000), and individual components of the cluster (Fernander et al., 2006; Ward, Flisher, Zissis, Muller, & Lombard, 2001). What is not clear is the direction of the causal relationship. Thus, the psychiatric disorder could cause the risk behaviour; or the risk behaviour could cause the psychiatric disorder; or they could both be caused by other factors. It is probable that the nature of the relationship varies according to the particular risk behaviours and psychiatric disorders in question. However, whatever the nature of the relationship, there are clear implications for public health. Specifically, preventive, promotive or treatment interventions that address either risk behaviour or psychiatric disorders would benefit from addressing the other aspect.

There are thus compelling reasons to prioritise adolescent mental health when attempting to reduce the burden attributable to mental health. Not only will the impairment associated with the disorders be reduced, but there is the possibility of affecting the long term course of the disorder and hence reducing the individual, family, community and societal burden. Finally, the public health challenges posed by risk behaviours such as sexual risk behaviour, interpersonal violence and substance use are obvious. Whatever the reasons for the associations between risk behaviour and psychiatric

disorders, any promotive, preventive, treatment or rehabilitative interventions for risk behaviour or psychiatric disorders that fail to address the other will have suboptimal effectiveness.

- **International studies find high rates of mental health disorders among adolescents.**
- **Many of these disorders persist into adulthood, and carry high costs to individual, family, community and society.**
- **Risk behaviours, such as violent behaviour, sexual behaviour, suicidal behaviour, dangerous road-related behaviour, and use of tobacco, alcohol and other drugs, covary, and are often associated with mental health problems.**
- **Interventions should address risk behaviours and psychiatric disorders.**

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Western Cape Burden of Disease Reduction Project

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Decreasing the Burden of Mental Illness

Final Report 2007

J Corrigall
C Ward
K Stinson
P Struthers
J Frantz
C Lund
AJ Flisher
J Joska