In May 2011, the sixty-fourth World Health Assembly adopted a resolution on child injury prevention, the first ever on this issue (World Health Organization [WHO], 2011).

The adoption of this resolution by the World Health Assembly is a landmark accomplishment. It recognises child injury as a major child survival issue. South Africa is a signatory to this resolution and others, such as the UN Convention on the Rights of the Child, with its First Call for Children commitment, and the 16 Days of Activism for No Violence Against Women and Children, another international campaign. Despite these commitments to child health and safety, children from South Africa continue to be threatened by injuries of various kinds, although this is typically overshadowed by the impact of nutritional and infectious diseases. However, the extent of the injury burden in South Africa, as in Africa, increases significantly after the age of five years, and is thereafter one of the leading contributors to the child burden of disease. These injuries and deaths are predominantly the result of transport crashes, fire and scalding burns, falls, drowning and poisoning (Peden, Oyegbite, Ozanne-Smith, et al., 2008). In addition, childhood injuries and deaths due to violence and wars in certain regions, including Africa, are significant, with the violent child deaths in Africa nearly the same as that for the rest of the world combined (WHO, 2002).

In South Africa, the leading causes of child injury death are due to road-traffic crashes, particularly to pedestrians. Other important causes are burns,
drowning and, in some cities, firearm injuries (Burrows, Van Niekerk & Laflamme, 2010). The leading cause of hospitalisation for a non-fatal injury is a fall (Eichhorst & Van As, 2012). For each fatality, many other injuries result in varying degrees of disability and, depending on the cause, severity and circumstances of the injury, may result in serious psychological harm, with long-lasting educational, social and economic consequences for the affected individuals and their families (Barss, Smith, Baker & Mohan, 1998).

The scale and distribution of childhood injury differs between countries, communities and neighbourhoods, and according to societal lines defined by gender, age, ‘race’ and family income (Laflamme, Svanström & Schelp, 1999). International experience has indicated that injuries are not random, but predictable events that are in the majority of cases preventable. Many industrialised countries have reduced their injury death rates, some by as much as half. These reductions can be attributed to concerted and sustained injury prevention efforts, often instigated by governments as part of a national strategy or programme. National strategies have been especially effective in reducing injuries in countries such as Australia, Canada, Sweden and France (WHO, 2006, 2011). Many countries with emerging economies, such as South Africa and Uganda, have also begun investing in research and programming towards developing the local evidence base.

The Crime, Violence and Injury in South Africa: 21st Century Solutions for Child Safety seeks to contribute to the knowledge platform required for the ongoing development and consolidation of South Africa’s research and prevention efforts directed at childhood injury. The 21st Century Solutions for Child Safety has the following overall objectives; to:

- Describe the extent and consequences of priority child injury problems.
- Identify significant downstream and upstream risk and, where available, protective factors.
- Highlight the proven and promising injury prevention contributions that may result from environmental, social and technological strategies and interventions.
- Propose prevention priorities, and consequent research and policy imperatives.


CONCEPTUAL BASIS

This Review is aligned to the definition of injury as the physical damage that results when a body is suddenly subjected to energy in amounts that exceed the threshold of physiological tolerance, or from a lack of one or more vital elements (for example, oxygen). The energy could be mechanical, thermal, chemical or radiant. It is conventional to classify injuries by their cause, i.e. as intentional (deliberately inflicted) or unintentional, which is aligned to WHO classifications. Unintentional injury typically comprises injuries due to road traffic crashes, drowning, fire and scalding burns, poisoning and falls. Intentional injuries are the result of deliberate acts of violence against oneself or against others. Intentional injuries can be further classified according to the people involved in the event, i.e. interpersonal (injuries inflicted by one person against an intimate partner, child or elderly

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2 In South Africa, the terms ‘African’, ‘coloured’ (referring to mixed heritage), Indian and ‘white’ refer to various population groups. It is recognised that these categories are a social construction that has served particular political purposes. It is not implied that such categories have any anthropological or scientific basis. The terms are used to reflect the differential manner in which the earlier South African policies of racial segregation, or Apartheid had impacted on the lives of various groups of South Africans, and still does.
person), self-inflicted and collective violence. Injuries may also be classified according to the settings in which they are most prevalent, e.g., the home, school and in institutions.

THE CHAPTERS
The Crime, Violence and Injury in South Africa: 21st Century Solutions for Child Safety comprises 16 Chapters. Four focus on the prevention of unintentional injury, in particular pedestrian traffic injuries, burns, falls and lead poisoning. The Review does not cover all the causes to unintentional injury; this is particularly the case for drowning, which is a significant injury concern (Burrows, Van Niekerk & Laflamme, 2010). The full range of causes to the specific unintentional injuries, e.g., poisoning, is also not covered, in particular poisoning injuries due to paraffin or kerosene ingestion. Eight Chapters deal with intentional injury prevention. Three of these Chapters describe the prevention of violence as may be manifest across all settings, but especially in the home, through maltreatment, sexual abuse and sexual violence with HIV transmission. Two Chapters focus on violence and its prevention in the school setting, while two examine violence that manifests in the broader community, via gang violence, and in specific institutional settings where children may be deprived of their liberty. The final Chapter on intentional injury prevention focuses on those self-inflicted injuries, i.e. through suicidal behaviour. The Crime, Violence and Injury in South Africa: 21st Century Solutions for Child Safety concludes with three Chapters that explore issues that affect both intentional and unintentional injury causation and prevention. Two focus on the role of alcohol and drug use, through the direct use by children and through the effects of Fetal Alcohol Syndrome. The final Chapter focuses on the psycho-social impact of injury and its implications for intervention.

Each Chapter provides a review of key findings with reference to current South African and relevant international research and programmatic work in the child safety sector. The Chapters include, to various degrees, a description of the injury problem and its extent; important risk, and in a few cases, protective factors; and descriptions of effective or promising prevention interventions. South African initiatives that address the impact of injury prevention and safety promotion interventions are few and often limited in scope. Each Chapter includes a set of key messages that highlight the most important research findings and recommendations, and thus contributes to the identification of objectives for the formulation of child injury prevention policy. These recommendations are targeted at the Review’s primary readership audience, which includes researchers, policy-makers, public health specialists, social scientists, service providers, intervention managers and health information development specialists. Other intended readership target groups include the media, parliamentarians, councillors, NGOs, academics, post-graduate students, and health-related international institutions and organisations.

Chapter 2, Pedestrian Injury, by Najuwa Arendse, Lu-Anne Swart, Ashley van Niekerk, and Sebastian van As, highlights pedestrian injuries as the leading cause of injury death amongst South African children. Despite national recognition of the child pedestrian injury burden, the Chapter argues that the prevention response by existing networks, programmes and projects has been inadequate. The Chapter identifies interventions that have demonstrated a reduction in child pedestrian injury or that improved pedestrian road safety behaviour. Programmes combining reports on engineering, enforcement and educational strategies have reported noteworthy successes at promoting pedestrian safety.

Chapter 3, Burns, by Ashley van Niekerk, Neziswa Titi, Ursula Lau and Najuwa Arendse, underlines
the high rate of child burns, with as many as 1300 deaths every year. Congested homes, the use of paraffin appliances, family pressures and general impoverishment all contribute to the magnitude of childhood burn injury. This Chapter reviews these contributors and draws attention to the improvement of home design and layout, installation of electricity, legislation of standards for hot water cylinder temperature control, and distribution of safe paraffin appliances as high priority burn prevention strategies.

Chapter 4, Lead Poisoning, by Angela Mathee, indicates that for the past three decades considerable numbers of South African children have had blood lead levels that have exceeded international levels. The health effects associated with even very low blood lead levels are beyond doubt, and include reductions in IQ scores, an inability to concentrate and learning difficulties, with emerging evidence that links child lead exposure with later adult aggression and violent behaviour. The Chapter describes two important recent milestones to lowering blood lead distributions: the phase-out of leaded petrol, and the promulgation of legislation to control the use of lead in paint.

Chapter 5, Falls, by Michelle Eichhorst and Sebastian Van As, indicate that falls are the leading cause of hospitalisation for non-fatal injuries to children around the world and in South Africa. The most common fall-related injuries among children are fractures, and these typically occur at the child’s home, school or crèche, and while walking or running. Risk factors are dependent on the individual child, the agent(s) used at the time of injury, and the child’s environment. The Chapter calls for all levels of society to be involved in preventing the injuries caused by falls.

Chapter 6, Maltreatment Prevention and the Ethic of Care, by Mokhantšo Makoae, Linda Richter and Ken Jubber, indicate that despite the dearth of reliable data on the exact magnitude of child abuse and neglect in the country, policymakers, practitioners and ordinary citizens concur that it is a ubiquitous problem affecting all population groups and social classes. Given its negative long-term consequences, initiatives that prevent child maltreatment from occurring are being promoted to augment the available reactive responses. This Chapter argues that an ethic of care requires consideration as an essential requirement for improving the well-being of children and families. The ethic of care, i.e. the strengthening of caring relationships between adults in general, and parents and their children in particular, provides one of the missing ingredients in the current policy environment of South Africa. Such prevention programmes are among those that have shown positive outcomes and are worth implementing in South Africa.

Chapter 7, Sexual Abuse, by Shanaaz Mathews, Lizle Loots, Yandisa Sikweyiya and Rachel Jewkes, reports that child sexual abuse is pervasive. Approximately one in six of all reported chronic sexual abuse cases are girls aged up to eleven years. The social context of sexual abuse in South Africa shows us that inequality and patriarchal constructions of masculinities in South Africa reinforces male dominance over women and girls, thereby increasing their vulnerability. Although sexual violence is predominantly perpetrated by men against women and girls, emerging research shows us that the sexual abuse of young boys is a growing concern internationally. Although South Africa has enabling legislation, policy frameworks and guidelines, these address child sexual abuse mostly from a medico-legal perspective and do not address therapeutic responses to provide for the psycho-social or emotional needs of the child and his/her family.

Chapter 8, Sexual Violence and HIV, by Alicia Davids, Nolusindiso Ncitakalo, Sinawe Pezi and Nompumelelo
Zungu, indicates that sexual violence to children and adolescents increases their susceptibility to human immunodeficiency virus (HIV), with non-consensual sex associated with increased genital trauma and coital injuries, and the likelihood of anal penetration. HIV infection rates among adolescents are on average five times higher among girls than among boys. Although there have been efforts to protect children through interventions, policies and the use of laws, such as the Children’s Act, this Chapter advocates for greater enforcement and implementation of these policies and laws, and enablement of those agencies that have the responsibility to protect children.

Chapter 9, _Bullying in Schools_, by Cleo Protogerou and Alan Flisher, highlights the epidemiology and nature of bullying, its hypothesised antecedents and consequences. The Chapter describes anti-bullying intervention programmes, along with a commentary of their effectiveness, and recommendations for further preventative measures. The Chapter assumes a critical stance towards the international and South African bullying literature, pointing out strengths and deficits of the theories, research methods, and practical applications employed. The Chapter concurs that investigators must carefully synthesise existing theoretical and empirical information and use it as a basis for developing anti-bullying programmes. To be efficacious, preventative efforts need to be theory-driven, data-driven, and subjected to rigorous evaluation.

Chapter 10, _Towards Safer Schools_, by Sandy Lazarus, Nariman Khan and Bridget Johnson, focuses on the challenge of developing safe schools in South Africa, with a particular focus on violence prevention in the school setting. The Chapter provides an overview of violence prevention in and through schools, drawing on international lessons and recent South African recommendations. Specific strategies believed to be useful in schools are highlighted and briefly discussed. The latter section acts as a springboard for looking at a number of safe school initiatives that have been developed in South Africa. The Chapter concludes with key recommendations that focus on a comprehensive approach that addresses wider societal and community factors; ensures physical safety; develops positive school-community relationships; provides extramural programmes; develops a supportive and safe school culture; enforces discipline; provides an enriching life skills education; and provides educational support services.

Chapter 11, _Gangs and Child Safety_, by Catherine Ward and Adam Cooper, indicates that children involved in gangs are both more likely to injure others and to be the victim of violence. Prevention therefore aims to deter them from gang involvement in the first place, or to disengage them from the gang if they are involved. Interventions that combine prevention, disengagement and suppression are only successful insofar as they successfully achieve inter-agency cooperation. Many interventions have been attempted in high-income countries, and several focus exclusively on boys. There are few that have been attempted in low- to-middle-income countries and have been thoroughly evaluated.

Chapter 12, _Children Deprived of their Liberty: Protection from Torture and Ill Treatment_, by Lukas Muntingh, indicates that children deprived of their liberty by the state are at the risk of death, torture and ill treatment. Three types of places of detention are discussed, namely prisons, police cells, and child and youth care centres. The Chapter accepts the UN Convention Against Torture (CAT) as the legal anchor point and provides a detailed description of rights violations against children in detention, focusing on deaths in custody; torture and assaults; harsh conditions of detention; solitary confinement and detention incommunicado; illegal and inappropriate means of maintaining discipline; separation of categories of detainees; and trafficking. The Chapter
concludes with a number of recommendations focusing on improving the collection of data pertaining to children in custody; the criminalisation of torture; the need for comprehensive and continuous staff training; the regular review of policies, procedures and practices; promoting transparency and establishing independent oversight; establishing effective complaints mechanisms; the need for prompt and impartial investigations; and obtaining effective redress.

Chapter 13, *Suicidal Behaviour*, by Lourens Schlebusch, reports that in South Africa suicidal behaviour in the young ranges from being lethal with high intent to die (fatal suicidal behaviour) to non-lethal attempts (non-fatal suicidal behaviour) with low or no intent to die. Most suicides occur in the 15-19 year age group followed by the 10-14 year age group. There is a female preponderance in non-fatal suicidal behaviour compared to fatal suicidal behaviour where males predominate. Risk factors and aetiology are multifactorial and multidimensional. The high suicidal behaviour prevalence rates have considerable implications for mental health care facilities in the country. Early recognition of risk factors is important for prevention of suicidal behaviour and the need to develop appropriate, cost-effective interventions. Regional suicide prevention programmes and service agencies are in place in some instances, but a national suicide prevention programme, which has been recommended, has yet to be implemented.

Chapter 15, *Fetal Alcohol Spectrum Disorders*, by Sandra Marais, Esme Jordaan, Leana Olivier and Denis Viljoen, elaborates on one of the hidden effects of alcohol use, i.e. the adverse effects of maternal drinking on the unborn child. Fetal Alcohol Spectrum Disorders (FASD) are claimed to be a frequent cause of injury, the most frequent cause of preventable mental handicap, and devastating in their lifelong effects on the affected person. South Africa, with the highest measured FASD prevalence rates in the world in some communities, has no integrated national strategy or policy to deal with the phenomenon at present, and no ongoing surveillance. Important projects by a range of national and international organisations and universities are ongoing in their efforts to reduce the harmful alcohol use by pregnant women and women.

Chapter 16, *Psycho-Social Effects of Trauma and Violence: Implications for Intervention*, by Debra Kaminer and Gillian Eagle, considers the particular nature and context of child traumatisation; the documented psycho-social impacts of trauma and violence in South Africa and elsewhere; the factors that may increase or reduce the risk of adverse psycho-social consequences among children who have experienced trauma and violence; and the intervention approaches that have been advocated to assist traumatised children. While South African research on the psycho-social impact of trauma has grown in recent years, there is still a lack of local
data on developmental aspects of trauma, on risk and protective factors, and on effective intervention strategies. Yet, localised, context-specific knowledge is necessary in order to inform mental health policy and service provision. The Chapter offers recommendations for future research to advance this goal, and for strategies to improve psycho-social support for traumatised children in South Africa.

SAFETY FOR ALL
Numerous interventions for the prevention and control of child injury have been evaluated and promoted as effective. These are listed in these Chapters, and in other reports, including recently published WHO documents on road traffic crashes, and unintentional and/or intentional injuries. This Review promotes the reduction of exposure to hazards specific to poor home, recreational, educational, commuting and community environments, with a combination of universal and selected or targeted counter-measures. There is a case for a safety agenda that combines universal counter-measures, aimed at lowering injury rates for all, and selected and targeted counter-measures that help reduce the burden for those at greatest risk (Burrows, Van Niekerk & Laflamme, 2010).

This Review, consistent with the Sixty-fourth World Health Assembly resolution, therefore calls on South African stakeholders:

- To support the prioritisation of child injury prevention and safety promotion as national priorities.
- To support the integration of child injury efforts into a comprehensive approach that promotes child health and development, including a strengthening of health systems to address child injuries.
- To establish and implement science-based strategies and interventions to prevent child injury, and strengthen emergency and rehabilitation services.
- To raise awareness of and target investments towards child injury prevention.
- To develop, implement and put into practice a multi-sectoral injury prevention policy and plan of action with realistic targets.

Child injury prevention remains a critical social and public health priority that necessitates a response that involves collaboration and partnerships with all levels of government, parastatals, NGOs, community groupings, researchers and the public. South Africa urgently requires a coherent, multi-sectoral response and a strong government commitment to the prevention of child injury, and the provision of appropriate and effective long-term support to injury survivors. This Review seeks to contribute to the translation of child safety information to enable this concerted and coordinated action.

REFERENCES
ABSTRACT
Globally, injury and death due to road traffic crashes constitute a leading threat to public health. In Africa, the road traffic death rate for children is reported at 19.9 per 100,000 population, which is twice the world rate. Low- to middle-income settings indicate that pedestrians suffer the greatest proportion of road-traffic injuries and fatalities, in relation to passenger and driver injury deaths. In South Africa, pedestrian injuries are the leading cause of injury death amongst children younger than 15 years. Despite national recognition of the child pedestrian injury and death burden, there appears to have been an inadequate preventative response by existing networks, programmes and projects. This Chapter reviews proven and promising child-pedestrian injury prevention programmes and interventions. An in-depth search across all electronic databases for descriptive and evaluative documentation on local interventions was conducted.

Keywords: child pedestrian safety, education, enforcement, engineering, environmental design

The selection of reports was guided by the study aims and parameters using a coding system that identified the article in terms of their relevance to the research question and contribution towards the field of child pedestrian safety. Articles were organised and coded according to intervention type and core intervention dimensions. The Chapter reports on interventions that demonstrated a reduction in child pedestrian death, injury, injury risk, and/or improved pedestrian road safety behaviour. Programmes combining educational, engineering and/or enforcement strategies reported greater success at promoting pedestrian safety. Effective interventions usually involve a fusion of educational programmes, enforcement, environmental and engineering interventions, combining a variety of passive and active interventions to bring about a comprehensive appeal for individuals to learn in an interactive way within their environments.
INTRODUCTION
This Chapter provides an overview of the epidemiology and prevention research into childhood pedestrian injury. It highlights proven and promising child pedestrian safety intervention research, on a national and international level, with the intention of informing readers about opportunities for preventative responses suitable for implementation in South Africa. The Chapter describes:

a. The extent and epidemiology of child pedestrian injury in South Africa.
b. Selected risk factors and contributors.
c. The effectiveness of educational interventions as preventative responses.
d. Enforcement measures.
e. Environmental and engineering interventions.
f. Multi-type interventions.
g. Recommendations for the use of proven and promising interventions considered suitable for implementation in South Africa.

THE EXTENT AND EPIDEMIOLOGY OF CHILD PEDESTRIAN INJURY
The World Health Organization (WHO) Burden of Disease project indicated the highest road traffic death rates in the African and Eastern Mediterranean regions (McMahon, Gopalakrishna & Stevenson, 2008). The African region’s road traffic death rate for children is nearly twice that of the world rate at 19.9 per 100 000 population (McMahon, Gopalakrishna & Stevenson, 2008). These fatality rates are likely to rise, considering the predicted overall increase in road traffic injuries in sub-Saharan Africa, by as much as 80% between 2000 and 2020 (Kopits & Cropper, 2003; Peden et al., 2004). In these settings and in low- to middle-income countries in general, pedestrians are the most vulnerable of road users and suffer the largest proportion of traffic-related injuries and fatalities (Afukaar, Antwi & Ofosu-Amaah, 2003; Mabunda, Swart & Seedat, 2007; Matzopulos, Norman & Bradshaw, 2004).

In South Africa, pedestrian fatalities comprise a significant share of the traffic injury burden in South Africa, with 36% of all road traffic deaths involving pedestrians (Road Traffic Management Corporation [RTMC], 2008). In 2008, 698 (13.2%) of the 5272 pedestrian deaths where age was known, involved children under the age of 15 years (RTMC, 2008). Male children are at greater risk (Hobday, 2008), with a fatality risk ratio of 1.4 to 1 (Hobday, 2008). Children between the ages of 5 and 9 years are at greatest risk from pedestrian death and injury, and comprise 49% of all child pedestrian fatalities (RTMC, 2008).

The occurrence of child pedestrian injuries is clustered around certain times of the day. The most common times for fatal injuries are weekday afternoons (Mabunda, Swart &
Seedat, 2007), indicating that such road crashes occurred in daylight (84%, n = 1015), but particularly at dawn and dusk, with most occurring during the week (Hobday, 2008). Since children, especially those aged between 5 and 9 years, have to get to and from school, they may be exposed as “commuters,” particularly if they walk to school, but also as they walk to and from the buses and cars that take them to school.

A high number of incidents appear to have occurred in and around informal settlements (Peden, 1998), which typically have a high population density of children, high housing density, fewer designated play areas, and higher than average household crowding (Montgomery, 2009; National Safe Kids Campaign [NSKC], 2004). Children in these settings are heavily dependent on walking as their primary means of transportation (Behrens, 2003). Children living in poor socio-economic conditions have been reported to cross the streets 50% more than those from non-disadvantaged ones, and are consequently more vulnerable to pedestrian injury and/or death (Macpherson, Roberts & Pless, 1998; Tester, Rutherford, Wald & Rutherford, 2004).

Rapid urbanisation has contributed to these high population densities and the inadequate separation of people and vehicles (Sukhai, Noah & Prinsloo, 2004). The development of informal settlements, particularly those located alongside highways and main arterial roads create a challenge where children and adolescents are forced to cross busy roadways to and from school. Pedestrian fatalities are also a problem in rural areas, with these a leading cause of death among male and female children (Swart, Laher & Seedat, forthcoming). Risk characteristics associated with the primarily rural area of Mpumalanga include poorer road conditions and less availability of emergency services (Muelleram & Mueller, 1996; WylieMat & Kimball, 1997). Furthermore, response time may be longer due to delays in summoning help and the greater distances that may have to be travelled in the event of a crash (Brodsky, 1993; Zwerling, 2005).

**RISK FACTORS**

Child pedestrian injuries result from a highly complex interaction of many possible factors, with risk factors related to the child, physical, as well as social environments (Agran, Winn, Anderson, Tran & Del Valle, 1996; NSKC, 2004). A number of these require particular consideration in the development of safety interventions or policy.

**Child vulnerability**

The extent of the child’s physical, cognitive and emotional attributes and abilities, as well as aspects of their temperament and personality, contributes to their vulnerability (McMahon, Gopalakrishna & Stevenson, 2008; WHO, 2005). The small physical stature of children limits their ability to see oncoming vehicles or to be seen by vehicle drivers. As children’s sensory facilities are also less developed, they have difficulty seeing cars in their peripheral vision as well as locating the direction of the sound of an oncoming vehicle (Schieber & Thompson, 1996). Furthermore, children are easily distracted and have difficulty in focusing their attention on features of the road environment (Dunbar, Hill & Lewis, 2001), which probably accounts for the common occurrence of child pedestrian “dart-out” collisions (Pitcairn & Edlemann, 2000).

Even when children detect road hazards, safely negotiating the road environment is a complex task that requires the accurate assessment of vehicle distance and speed, driver behaviour and whether there is adequate time to cross the street (Schieber & Thompson, 1996). Processing and integrating all these aspects of information within a short period of time is difficult for a child and impedes their ability to identify safe places to cross the road and to identify safe gaps in traffic (Tabibi & Pfeffer, 2003;
Whitebread & Neilson, 1998). Children’s level of perceptual and cognitive abilities, and their limited experience, thus manifest in skills insufficient for the safe negotiation of often complex road situations (Dunbar, Hill & Lewis, 2001). The smaller physical size of children also adds significantly to the severity of pedestrian injuries; children suffer more severe and multiple injuries that result in greater fatalities due to the impact of the vehicle bumper or bonnet edge to the head or chest of the small child (Peden et al., 2004).

Supervision, the home and neighbourhood setting
Child pedestrian injuries commonly occur on residential roads adjacent or close to the child’s home or school, whether in urban or rural settings (Bass, Albertyn & Melis, 1995). Residential neighbourhoods are built to accommodate cars. The common straight and wide road, which is equipped with road parking spaces, contributes to drivers travelling at higher speeds than is necessary (Zegeer, McMahon & Burden, 1998). Children however often consider residential roads as part of their living space and this frequently places them at risk of being vulnerable road users as they are often exposed simply by walking through a parking lot to their parent’s vehicle, by playing in driveways, or even by chasing a ball in the front yard (Bass, Albertyn & Melis, 1995; Brison, Wicklund & Mueller, 1988; Schieber & Vesega, 2002). In high-density areas which often lack safe pedestrian walking or crossing facilities, such behaviour is often normalised (Bishai, DeFrancesco, Mahoney, Guyer & Gielen, 2003; Seedat, MacKenzie & Mohan, 2006). European safety policy makers and authorities have recognised the influential role that residential roads may play as a place where social interaction takes place, and where pedestrians should be better accommodated and even enjoy precedence (Avery & Avery, 1982; Rivara & Barber, 1985; Ward, 1991).

Children are more vulnerable, especially at the start of schooling when they are both increasingly physically mobile, afforded greater independence, and required to move from one area to another to various preschools or schools. Sixty to 70% of child pedestrian (younger than 10 years) injuries are attributed to the unprotected or improper crossing of the street and intersections (Harborview Injury Prevention & Research Centre, 1997, cited in MacComas, MacKay & Pivik, 2002). In South Africa, a hospital-based study in Cape Town highlighted the occurrence of pedestrian injury at times when children play or run errands in residential areas, especially during late afternoons. It found, however, that 24.3% of the injured children were supervised by adults at the time of injury (Bass, Albertyn & Melis, 1995). The lack of, or improper adult supervision is consistent with studies which report a more limited acknowledgement by caregivers of children’s vulnerability as road users (Michon, 1981; Rivara, Bergman & Drake, 1989). There may be a range of reasons for this; for example, caregiver expectations of children’s independence and abilities, and preoccupations with other priorities related to day-to-day survival (Bass, Albertyn & Melis, 1995).

Parents, older siblings, family and teachers are thus considered important road safety facilitators, with the responsibility of teaching or guiding children about safe road usage (Lartey, Price, Telljohann, Drake & Yingling, 2007; Museru, Leshabari & Mbembati, 2002). The perceptions and attitudes that teachers, communities and significant others hold towards child pedestrian safety and the interventions surrounding it, therefore, holds important implications for the prevention of child pedestrian injury. Child pedestrian injury victims and their parents and/or guardians reported that they were unaware of safer ways of walking along the road because of perceptions of (i) the risk of road traffic injuries as low, (ii) traffic injury not being a major problem in their community, and (iii) collisions
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as inevitable, and thus unpreventable (Museru, Leshabari & Mbembati, 2002).

Vehicle drivers and their vehicles are also important contributing factors to pedestrian injury. Vehicle speed influences both the frequency and the severity of child pedestrian injuries. Faster moving vehicles require a longer braking distance and make it difficult for the driver to avoid impact with a child in the road. Furthermore, most pedestrians (80%) are killed at impact speeds of 50km/h and above, whereas most (90%) would survive if hit by a car travelling 30km/h (Peden et al., 2004). In residential neighbourhoods, an average vehicle speed of 30 mph (48km/h), compared with 20 mph (32km/h) was associated with more than a seven times greater risk of children being hospitalised for pedestrian injuries (Jacobsen, Anderson, Winn, Moffat, Agran & Sarkar, 2000).

Vehicle design also has a significant effect on the severity and distribution of pedestrian injuries caused by vehicle impact (Simms & Wood, 2009). Sport utility vehicles, pick-up trucks and vans are more likely to cause severe injuries and death to children than are passenger cars (DiMaggio, Durkin & Richardson, 2006; Starnes & Longthorne, 2003). When struck by a higher elevated vehicle, smaller pedestrians are often thrown forward or knocked to the ground and run over instead of rolling up onto the vehicle’s hood. The drivers of higher elevated vehicles with a larger frontal configuration also may be more likely to have their view of smaller child pedestrians obstructed (Starnes & Longthorne, 2003). Hence vehicle front end design, especially for Local Transport Vehicles (LTVs), should be considered in future motor vehicle safety standards.

Societal challenges
The unprecedented growth of motorisation and urbanisation has produced an environment which is reported as hostile to children in South Africa (Bass, Albertyn & Melis, 1995). Over five thousand potentially high-risk road locations have been identified across rural and urban settings (Ribbens, 1998), with nearly 40% of pedestrian fatalities occurring on rural roads (Erasmus & Van Vuuren, 2004). A large proportion of the South African population either travel by foot or public transport, with 20% utilising private transport (Ribbens, 1998). South Africa thus has a low rate of vehicles per population (7.63 vehicles/1000 population), as compared with HICs, such as the USA (42.37/1000), UK (35.11/1000), France (34.73/1000), Netherlands (30.37/1000) and Australia (29.1/1000) (World Road Statistics, 1994, cited in Ribbens, 1997). Furthermore, the proportion of unroadworthy and unregistered vehicles is expected to increase on South Africa’s roads (Peden et al., 2004).

TRAFFIC INTERVENTIONS PROMOTING CHILD PEDESTRIAN SAFETY
There exists a broad range of traffic interventions that can potentially be used in different forms and contexts to improve the safety of pedestrians. The traffic interventions described in this Chapter are specific to the reduction of child injuries and related injury risks. Three main pedestrian intervention categories are reported on: pedestrian safety education, enforcement measures and engineering-type interventions (including both design and environmental safety solutions) (Stevenson & Sleet, 1997).

Education for child pedestrian safety
Road safety educational programmes that aim to reduce pedestrian injuries generally focus on equipping individuals with knowledge and skills to safely manage the traffic environment. Pedestrian-safety education can improve children’s knowledge and observed road crossing behaviour, but the extent to which this reduces actual child pedestrian injury occurrence is unknown (Duperrex, Roberts & Bunn, 2002). Education can prepare children to become safe and independent road users (Quimby, 2001).
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by developing road safety knowledge and skills, and is regarded as an important component of a comprehensive strategy to prevent child pedestrian injuries (Duperrex, Roberts & Bunn, 2002; Wyke, Capleton, O’Connel, Duarte-Davidson & Health Protection Agency, 2007).

The school curricula in mainly the low- and middle-income countries either provide no or little road safety education (RSE) to their students. In South Africa, RSE, specifically targeting children is considered to be a neglected intervention (Lötter, 2004). Though efforts to improve the pedestrian road safety situation has been addressed by the South African Department of Transport (DoT) with the launch of the Arrive Alive Road Safety Campaign in 1997, this campaign seeks to promote road safety to the general population through the use of informative posters, road safety magazines, video clips on road safety and information on rules of the road and traffic signs (Arrive Alive, 2009a). Even though these educational programmes are reported to have reached 80% of television viewers and 90% of radio listeners, no independent impact studies were performed on this national road safety initiative. The scholar or school patrol programme, originally developed by the American Automobile Association (AAA) and subsequently implemented by the DoT was meant to have a similar outcome. Its aim is to instil the importance of road safety behaviour amongst learners, to regulate traffic, improve speed calming measures and to ensure the safe(r) crossing of roads (Arrive Alive, 2009b).

Child pedestrian safety educational programmes have been extensively implemented in high-income countries in a variety of settings, including the home, school and community. They have been targeted either directly at children or at children with parents and teachers and employ a range of methods, such as classroom instruction, the use of audiovisual materials, including board and computer games, and educational training and practice in real and simulated traffic situations (see Schwebel & McClure, 2010). A number of key elements or good practices have been identified that contribute to the effectiveness of child road safety educational programmes (Desimini, Fox, Geise, Lee & Parker-Toulson, 2009). These include:

- The development of practical skills in either real or simulated traffic situations.
- Teaching materials appropriate to a child’s age and developmental abilities and environmental context.
- Adequate levels of adult supervision in traffic environments.
- Frequent and regular training – there is evidence that changes in safety knowledge and observed behaviour decline with time (Duperrex, Roberts & Bunn, 2002) and, accordingly, should have a formal place in the school curriculum (Quimby, 2004).
- Parental involvement.
- School programmes that are reinforced by community safety initiatives (Quimby, 2004).

Examples of promising programmes which include most of the above elements are the training, feedback and reinforcement educational package implemented in the US (Miller, Austin & Rohn, 2004) and the large-scale programme, Kerbcraft, implemented in the UK (Thomson, 2008; Whelan, Towner, Errington & Powell, 2008). These programmes are goal-oriented and take place under supervised learning, where learners (or agents) are provided with the “free choice” in how to behave (Ghory, 2004). These educational packages also include behavioural-intervention strategies with awareness training that promotes and facilitates the acquisition of pedestrian-safety skills and behaviours (Miller, Austin & Rohn, 2004).

Work by the UK’s Transport Research Laboratory (TRL) illustrates how these key elements can be combined with local culture, transport, political and
educational situations in low- and middle-income countries to develop promising child pedestrian safety education programmes. Safe Ways, a road safety education resource developed by the TRL, for use by primary school teachers of 10-11 year-olds, covered the following skills training topics: walking safely, observing the road environment, using protected crossings, crossing where there are no protected crossings, and choosing safe routes. Safe Ways attempts to teach children by involving them in the learning process and giving them real practical experience. Children exposed to the programme demonstrated an increase in knowledge and reported safe behaviour. These children’s road safety knowledge and skills were further reinforced by the parental support received by parents walking their children to and from school (Sayer, Palmer, Murray & Guy, 1997). The Safe Feet in India followed the Ghanaian Safe Ways programme with similar skills training topics. This programme placed greater emphasis on improving children’s observational skills in order to improve road safety awareness and thus their traffic safety behaviours (Quimby, 2004). Uganda’s In Country Training Programme has a similar goal, which is to increase children’s road safety knowledge and awareness by using the observational approach. The TRL developed a draft primary school, road-safety education curriculum and teachers guide. The whole seven years of primary education was produced in the required Ugandan format (Quimby, 2000). Proposals for the TRL to help in extending the materials available coincided with a review of the national primary curriculum (Volume 2) that took place in 2000. All three programmes drew on the local culture, transport, political and educational situation of the respective country (Quimby, 2004). Even though learning was promoted through practical experience near, but not necessarily on the roads, interactive “joyful” learning was continuously emphasised as being part of the intervention process (Quimby, 2004).

Driver education
Road safety education also includes driver education and revolves around two key issues: to raise awareness regarding the risks involved in travelling at high speed and to promote better speed management (Howard, Mooren, Nilsson, Quimby & Vadeby, 2008; Roberts, Kwan & the Cochrane Injuries Group Driver Education Reviewers). A number of driver education evaluations have been conducted in high-income countries, such as Australia, Sweden, USA and New Zealand (Hartling, Wiebe, Russell, Petruk, Spinola & Klassen, 2004; Ker, Roberts, Collier, Beyer, Bunn & Frost, 2003; Roberts, Kwan & the Cochrane Injuries Group Driver Education Reviewers, 2001). However, driver study programmes, such as the early licensing driver education programme or the post-license driver education programme, could not demonstrate a consequent reduction in road crash involvement (Hartling, Wiebe, Russell, Petruk, Spinola & Klassen, 2004; Ker, Roberts, Collier, Beyer, Bunn & Frost, 2003; Roberts, Kwan & the Cochrane Injuries Group Driver Education Reviewers, 2001).

Enforcement
Enforcement interventions refer to traffic measures that promote road user’s adherence to traffic regulations, such as regulating driver behaviour and the monitoring of pedestrian behaviour (Stevenson & Sleet, 1997). Inappropriate or excessive speeds have been identified as one of the most common contributing factors in vehicle crashes (Afukaar, Antwi & Ofosu-Amaah, 2003) and pose a serious threat to the safety of child pedestrians. Therefore, the regulation of speed is important in protecting child pedestrians. As survival rates for pedestrians are much higher at impact speeds of below 30 km/h (Peden et al., 2004) this speed should be the norm in residential areas, around schools and play areas. In South Africa, the speed limit is set at 60km/h on public roads in urban areas; 100km/h on public roads outside urban areas which are not freeways; and at 120km/h on freeways (Arrive Alive, 2009b).
This suggests the need for South Africa to revisit their speed management policies to appropriately align it with those international standards which have proven to be more pedestrian safe.

However, the implementation of lower speed limits to protect child pedestrians relies on traffic law enforcement resources to ensure that limits are adhered to. Various enforcement measures are considered effective and sustainable in nature (Aeron-Thomas & Hess, 2005; Bass, 1998; Jones, Lyons, John & Palmer, 2004; Wilson, Willis, Hendrikz & Bellamy, 2006). Speed enforcement detection devices and red-light cameras are popularly used as they are considered successful and promising in reducing driver motor vehicle speeds (Aeron-Thomas & Hess, 2005; Wilson, Willis, Hendrikz & Bellamy, 2006). Even though these devices are seen as reliable in reducing motor vehicle speed and crashes, its effect in reducing child traffic injury is unclear as this aspect has not been measured. These devices’ potential to reduce motor vehicle speed and crashes varies among differing countries and contexts (Wilson, Willis, Hendrikz & Bellamy, 2006), with no injury impact evaluations conducted in South Africa (Mountain, 2006).

**Environmental and engineering interventions**

Engineering modifications are reported to serve as the most effective means of reducing motor vehicle/pedestrian collisions (Bergman, Gray, Moffat, Simpson & Rivara, 2002). These methods are often not employed, due to the high cost and public and state neglect or indifference about pedestrian safety (Bergman, Gray, Moffat, Simpson & Rivara, 2002). There are two types of engineering measures: the engineering-environmental interventions and the engineering-design measures. Engineering-environmental measures refer to structural changes to the road or pathway environment such as pedestrian bridges and pedestrian crossings (Stevenson & Sleet, 1997), whereas engineering-design measures refer to safety or injury-reducing products such as reflective clothing, and other visibility aids (Stevenson & Sleet, 1997).

**Road design as a means to calm or separate traffic from children**

Environmental interventions are directed at separating pedestrians and vehicles and reducing motor vehicle speed (Bunn, Collier, Frost, Ker, Roberts & Wentz, 2003; Von Kries, Kohne, Böhm & Von Voss, 1998). Proven and promising interventions are roadway barriers, selected traffic-calming designs, and pedestrian crossing signs used in combination with clearly marked crosswalks (Forjuoh, 2003; Stevenson, Iredell, Howat, Cross & Hall, 1999). In addition, traffic calming measures can be useful in reducing driver motor vehicle speed when visible traffic officers on roads are scarce (Stevenson, 1997).

Environmental interventions reduce children’s exposure to highly congested roads and/or areas, by either providing them with safe demarcated walking pathways, or reducing the speed of adjacent traffic (Von Kries, Kohne, Böhm & Von Voss, 1998). The use of area-wide traffic schemes may further discourage motorists from using these residential roads. This is considered as useful for areas that have a high concentration of children, e.g., around schools (Bunn, Collier, Frost, Kerr, Roberts & Wentz, 2003; Schermers & Theyse, 1998). Road infrastructural changes (such as the physical segregation or pedestrians from motorised traffic) are shown to reduce the pedestrian injury risk (Tiwari, 1999). Even though speed humps are most popularly used in reducing vehicle driver speed, it is viewed as more effective when used in combination with other road design measures such as mini-circles or pedestrian crossings (Emslie, 1997a, 1997b). Traffic calming measures thus encourage speed limit compliance; it improves driver visual certainty, and improves driver capabilities and abilities to detect roadway hazards at intersections (Beyer, Pond & Ker, 2005; Roberts, 1993).
The use of visibility aids

To prevent potential collisions, pedestrians’ road visibility is improved by using visibility aids (Kwan & Mapstone, 2006). Evaluations assessing the effect of visibility aids on a driver’s response in preventing pedestrian-motor vehicle collisions distinguished between day and night time reflective clothing and devices (Kwan & Mapstone, 2006). Fluorescent materials in orange, red and yellow improved the pedestrian recognition in daytime, whereas lamps, flashing lights and retro-reflective materials in red and yellow are suitable for improving night-time visibility (Kwan & Mapstone, 2006). Retro-reflective materials are seen as useful for improving pedestrian visibility on the road, especially during low light conditions. Their effect on pedestrian injury risk and death is, however, unknown.

Biomotion (or biological motion) clothing and standard retro-reflective vests are equally effective in detecting a moving or stationary pedestrian in environments with high visual clutter at night (Moberley & Langham, 2002). Pedestrians often overestimate their own visibility at night, and their detection on the road by the driver is dependent on whether or not a reflective vest or biomotion clothing is worn. This design feature could serve as protection in reducing pedestrian injury and/or death (Moberley & Langham, 2002). However, for this intervention to be effective, a behavioural change is necessary on the part of the pedestrian. This will require them to practice their road safety skills with an acceptable level of appropriate road safety knowledge and awareness, and their behavioural conduct should change as well.

The use of multiple intervention types

A cluster of appropriately selected interventions commonly referred to as multi-type interventions are advocated to reduce road traffic accidents. This involves a fusion of educational programmes, enforcement, environmental and engineering interventions. This combination of measures are considered optimal for effectively reducing child pedestrian injury and risk, its success is, however, dependent and influenced by the complexity of strategies employed (Turner, McClure, Nixon & Spinks, 2004). In addition, the amount of resources, timescales and commitment of organisations and key individuals are considered of importance to this intervention’s success (Turner, McClure, Nixon & Spinks, 2004).

Community-based interventions are commonly categorised as multi-type interventions as they utilise a variety of passive and active interventions (Klassen, MacKay, Moher, Walker & Jones, 2000). The focus on behavioural change, following environmental change within the community and/or the passing or enforcement of legislation, is an attempt to alter behaviours and social norms about acceptable road safety behaviours. Generally, these types of interventions are directed, via targeted public education and behavioural modification, at children and parents, the local community and/or educators, and indirectly enforced with passive measures, such as environmental (e.g., speed humps) and enforcement (e.g., speed enforcement devices) interventions (Kendrick, 1993).

A number of effective multi-type interventions, such as the Child Pedestrian Injury Prevention Project (CPIPP), the Streets Ahead on Safety (SAOS), Eldorado Park Project, and the PAVE strategy have been reported upon. These interventions collectively produce a comprehensive and integrated intervention programme that consists of educational and/or enforcement and/or environmental intervention(s) (Cross et al., 2000; Erasmus & Van Vuuren, 2004; Klassen, MacKay, Moher, Walker & Jones, 2000). These multi-type interventions are interactive and involve community participation to assist with its sustainability. They often reduce risky road behaviours on the part of the vehicle driver and
pedestrian and create safer environments (such as the setting up of playgrounds for children).

There are many economic, social and demographic factors that might influence the level of road safety and consequently, influence what is required (Lötter, 2004). Consideration must be given to the type of measure(s) and its suitability in a specific context. South Africa’s National DoT has adopted an integrative approach to road traffic safety; whereas the provincial government generally promotes road safety and it initiates pedestrian safety programmes (Erasmus & Van Vuuren, 2004). However, it may be argued that some of these traffic and pedestrian safety programmes need to be more interactive, rather than informational.

CONCLUSIONS AND RECOMMENDATIONS

For South Africa, the inadequate road and pedestrian infrastructure, poor street lighting, and weak integration of transportation and land-use planning are reported to contribute to pedestrian collisions (Ribbens, Everitt & Noah, 2008). Despite national recognition of the child pedestrian injury and death burden, the ongoing and significant occurrence of these injuries suggest that the injury prevention response by existing networks, programmes and projects require support to bring about further success in reducing child pedestrian injury and/or death.

Recent international and South African research has provided initial descriptions of the child populations at risk, the typical circumstances of injury occurrence, and preventive measures (Matzopoulos, Myers & Jobanputra, 2008; Sukhai, Noah & Prinsloo, 2004; WHO, 2009); and though many interventions appears promising, there is a distinct lack of locally evaluated interventions.

Enforcement measures are amongst the most effective in low-income countries (Afukaar, Antwi & Ofosu-Amaah, 2003). Even though speed limit enforcement by traffic police may not always be affordable, consideration of environmental interventions such as speed humps and mini-roundabouts are recommended (Afukaar, Antwi & Ofosu-Amaah, 2003; Jones, Lyons, John & Palmer, 2004). The international and, more limited, South African literature highlight the cost-effectiveness and influential role environmental approaches provide for enhancing pedestrian safety on roads. The effectiveness of educational approaches compared with environmental enforcement and even engineering interventions in promoting child pedestrian safety, is more contested. Educational measures are often not able to sustain safe street crossing behaviour, long after the intervention (Walton, Percer & Lim, 2008). The majority of child pedestrian education appears to have insufficient ability to bring about and maintain behavioural change with regards to road traffic safety.

South African researchers have emphasised community ownership as a prerequisite to ensure local road safety improvements (Vermaak, Groenewald, Makhado & Van Niekerk, 2005). There continues to be a need for increased collaborative efforts with the role players from various transport and health disciplines within the provincial departments, as well as non-governmental organisations (NGOs). There is an ongoing need for enforcement, such as the deployment required to enforce regulations. Traffic separation (such as raised-block pedestrian crossings at all schools) and speed calming measures in highly congested areas; legislation for the improved enforcement of pedestrian behaviour; the provision of ongoing instruction at scholar patrol procedures and strengthening of its programme; and the ongoing enforcement of safe drive conduct remain as important priorities for South Africa.

It is proposed that city and local road safety projects utilise government and non-governmental support,
alongside community participation required for an improved holistic approach to implement effective interventions. The purpose of this would be to allow for the valuable contribution of local knowledge on road safety issues. Essentially, active (i.e. community involvement), passive (i.e. infrastructural changes such as modifying traffic patterns) and sustainable public health interventions are best placed to bring about a safer living environment for the children in South Africa. Finally, existing interventions utilised by the South African government departments and NGOs should be assessed to demonstrate and improve their effectiveness.

Key messages

- In South Africa, child pedestrian deaths are the leading cause of injury mortality to children up to the age of 15 years.
- Road safety educational interventions yield positive child behavioural outcomes, but are more effective when used in combination with other intervention types.
- A variety of enforcement measures are considered suitable and sustainable in reducing drivers’ speed.
- Environmental interventions (such as roadway barriers, selected traffic-calming designs, or pedestrian crossings) are effective in reducing children’s daily exposure to highly congested roads or areas.
- Engineering design measures are more effective when used in combination with other intervention types.
- Multi-type interventions contribute to a holistic road safety strategy. These combinations are interactive and often involve community participation which assists with intervention sustainability.

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ABSTRACT
South Africa has a high rate of childhood burns, with as many as 1300 deaths every year, many of which are thought to be preventable. South African investigations have described child burn circumstances of occurrence; perspectives on the aetiology and prevention of childhood burns; and descriptions of a number of prevention interventions. These reports have emphasised the vulnerability of especially infants and toddlers, with the highest incidence among very young black boys. Congested homes, paraffin appliances, family stress and general impoverishment are reported to contribute to childhood burn injuries. This Chapter reviews these contributors and the environmental, legislative and educational preventative strategies and activities reported to have had some success internationally, if not in South Africa, in the prevention of burns. The improvement of home design and layout, installation of electricity, control of hazardous domestic equipment and provision of safe appliances, are all high priority or effective burn prevention strategies. In addition, the formulation of South African legislation to enable these infrastructural improvements, such as policies or standards for both hot water cylinder temperature control and paraffin appliances, is strongly supported. Educational interventions that target children, caregivers and policy makers, potentially consolidate the efficacy of burn prevention. Post-traumatic, psycho-social interventions are important in the South African setting and this Chapter reports on the emerging local and international practices. These include burn camps, support groups, school reintegration, counselling, and expressive arts. However, there remains a scarcity of information on which rehabilitative and preventative interventions work in South Africa, with few scientific evaluations of local interventions.

Keywords: burn injury, epidemiology, prevention, rehabilitation

INTRODUCTION
This Chapter provides an overview of South African burn injury prevention research. It provides a synopsis of the most recent research in the sector, and supplements an earlier review that documented burn injury prevention research and interventions...
in South Africa (Van Niekerk, Du Toit, Nowell, Moore & Van As, 2004a). Furthermore, it aims to inform readers about what is currently known about childhood burns and the opportunities for prevention and intervention in South Africa. The Chapter summarises the epidemiology and prevention of childhood burns, highlighting proven and promising interventions, by describing:

a. Epidemiological descriptions of the extent of childhood burn injuries as a priority threat to the health of the South African public.

b. Recent studies that identify significant individual, familial and contextual contributors to burns.

c. The contribution of environmental and technological preventative strategies and interventions.

d. Issues that affect the rehabilitation and support of burn victims and their families.

e. The applicable legislative and policy frameworks that underpin prevention and rehabilitation in South Africa.

f. By highlighting information barriers, prevention priorities, and future research needs for burn prevention and care.

**A global and South African social and health threat**

The World Health Organization (WHO) estimates that each year about 100,000 children die from flame or fire-related burn injuries, but this excludes deaths as a result of scalds, electricity, chemical burns and other forms of burn injury, about which less is known (Forjuoh & Gielen, 2008; Mock, Peck, Peden & Krug, 2008). In addition, over half a million paediatric hospitalisations are estimated annually (Burd & Yuen, 2005). Thermal injuries may leave disabling scars not only to the skin or the body of the child, but also to her or his psyche. These injuries may impose significant psychological, educational and social impairment to the young child. The consequent adjustments may be exacerbated by a range of factors, including the circumstances, severity and site(s) of the injury, the qualities of the child’s personality, and the access to supportive social relationships (Barss, Smith, Baker & Mohan, 1998; Rode, Millar, Le, Van der Riet & Cywes, 1989; Van Niekerk, Rode & Laflamme, 2004b). In terms of future economic contributions, the younger the child at the point of injury, the greater the potential loss in productive years.
These burns are disproportionately concentrated in low- and middle-income contexts (LMICs), most markedly in South-East Asia and Africa (WHO, 2002), where the consequences of burns are aggravated by the lack or unavailability of specialised intervention policies, staff and technologies (Barss et al., 1998; WHO, 2003). South Africa has reported a high rate of burns (Matzopoulos, 2005), but is one of a number of LMICs for which there is an emerging platform for burn prevention. South African research has recently described child burn morbidity patterns and circumstances of occurrence (Van Niekerk, 2006; Van Niekerk et al., 2004b); and perspectives on the aetiology and prevention of childhood burns (Van Niekerk, Seedat, Menckel & Laflamme, 2007). These investigations have contributed towards indications of the extent of burn mortality and morbidity, and generated increasingly more synthesised descriptions of the demographics and circumstances of child burn morbidity in resource-poor settings (Chopra, Kettle, Wilkinson & Stirling, 1997; Hudson & Duminy, 1995; Kibel, Bass & Cywes, 1990; Peden, 1997; Van Niekerk et al., 2004b, 2004a; Zwi, Zwi, Smettanikov, Soderlund & Logan, 1995).

**EXTENT, SCOPE AND OCCURRENCE IN SOUTH AFRICA**

In South Africa, burn injury has been reported as a persisting threat affecting children from low-income settings, in particular. About 1300 children die every year as a result of burn injuries (Bradshaw, Bourne & Nannan, 2003), but many lives can be saved, because burn injuries are preventable. The highest childhood burn mortality rates are reported in the first three years, with rates thereafter decreasing until adolescence when burn mortality rates start to increase (Van Niekerk, Laubscher & Laflamme, 2009). This concentration of burn mortality and injury amongst infants and toddlers occur across South Africa’s population groups, with the highest rates amongst very young black children. Both male childhood mortality, as well as injury rates are higher than those for the corresponding female rates (Van Niekerk et al., 2004b, 2009).

Childhood burn injuries occur according to four typical classes. These classes are differentiated according to the age of the victim, type of burn injury sustained, environmental conditions, season, and body region injured (Van Niekerk et al., 2004b) (see Table 1). The first class describes infant scalds that largely occur to male victims with the upper body part region affected. The second category, toddler scalds, typically involves the lower body region with a concentration of injuries amongst female victims and during evenings. The third class describes pre-school and school-aged children vulnerability with burns mostly caused by flames with injuries occurring at night and during the early-morning hours, and being sustained during winter and to the lower body parts. A fourth injury pattern points to a blend of aetiologies and age groups. A large proportion of these occurs outside the home, with injuries to the head and neck. Male children are over-represented and, to some extent, school-age children and older toddlers (Van Niekerk et al., 2004b).

**INDIVIDUAL, FAMILIAL AND CONTEXTUAL CONTRIBUTORS**

**Early vulnerability: Temperament and socialisation**

Age and gender have provided consistent indications of children’s vulnerability to burn injuries (Van Niekerk, 2006). In South Africa, there is a concentration of burn injuries in the first three years of life, followed by a progressive decline in incidence. Male children were associated with an overall excess risk to burn injuries compared with girls, as they have in other studies (see for example: Daisy et al., 2001; Lari, Panjeshahin, Talei, Rossignol & Alaghehbandan, 2002), although these gender differences tended to decrease after toddlerhood, but re-emerged with the
older, school-going children. Elsewhere, particularly in India and parts of South-East Asia, females are at higher risk, reportedly due to their involvement in domestic activities near open flames and because of clothing styles (Davies, 1990; Forjuoh, Guyer & Smith, 1995).

The early vulnerability of boys may be considered a reflection of temperament and higher activity levels, with indications that temperament (Schwebel & Plumert, 1999), and to an extent, activity levels (Forjuoh, 2006), are related to injury history. Boys are reported to behave more impulsively and over-estimate their physical abilities (Schwebel & Plumert, 1999). The early effect of differential socialisation is a further consideration, for example parents are less likely to restrain the exploratory behaviour of boys even if the child’s behaviour is perceived to pose an injury risk (Morrongiello & Rennie, 1998). In general, toddlers are characterised by a curiosity of their environment and an increased, but still evolving and unstable physical ability to explore it (Duncan, Van Niekerk & Mufamadi, 2003). Toddlers are faced with the challenge of learning to walk, while still very unsteady on their feet and prone to grabbing objects to steady themselves, but thereby coming into greater contact with heat sources, such as cooking pots, kettles or heating equipment (Barss et al., 1998; McLoughlin & McGuire, 1990).

<table>
<thead>
<tr>
<th>Injury group</th>
<th>Who is affected</th>
<th>Injury agent(s)</th>
<th>High risk activities, products and behaviours</th>
<th>What can be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant scalding</td>
<td>Infants; boys</td>
<td>Hot liquids and foods</td>
<td>Bathing and cooking; hot water geysers without temperature control; not keeping children away from hot liquids.</td>
<td>Mandatory specifications for hot water geysers; parent support and training; home visitation; economic and home care support for female-headed households.</td>
</tr>
<tr>
<td>Toddler scalding</td>
<td>Toddlers; girls</td>
<td>Hot liquids and foods</td>
<td>Bathing, cooking or cleaning; portable stoves and paraffin stoves.</td>
<td>Mandatory specifications for hot water geysers; enforcement of specifications for portable and paraffin stoves; stove guards; access to affordable electrification.</td>
</tr>
<tr>
<td>Older children with flame burns</td>
<td>Preschool and school-aged children; girls</td>
<td>Flames</td>
<td>Cooking, and the lighting of fires; portable and paraffin stoves.</td>
<td>Stove guards; access to affordable electrification; enforcement of specifications for portable and paraffin stoves; home visitation; burn prevention school curricula.</td>
</tr>
<tr>
<td>Older children with mixed aetiologies</td>
<td>Toddlers and school-going children; boys</td>
<td>Hot objects, electrification, and to a lesser extent flames</td>
<td>Outdoor play and experimentation; portable and paraffin stoves.</td>
<td>Burn prevention school curricula; barriers for electrical sub-stations; enforcement of specifications for portable and paraffin stoves; controlled dissemination and disposal of flame accelerants.</td>
</tr>
</tbody>
</table>
Older children are exposed to a greater range of high-risk activities such as cooking, a reflection of greater physical mobility and social independence. In South Africa, children are involved in the gathering of firewood and the lighting of fires for morning and evening meals, activities common for children in low-income settings (Van Niekerk et al., 2004b). Older children spend an increasing amount of time with other children, older siblings and other adults, increasingly outside the home (Duncan et al., 2003). This widening social network may expose them to the risks posed by the open fires (and related hot objects) initiated for heating, cooking or other purposes, with older children involved because of their greater capacity for starting fires, and managing heating appliances and heated appliances or utensils.

**Supervision**

The concentration of burn injuries amongst infants and toddlers account for up to half of all childhood burns (see e.g., Rossi, Braga, Barruffini & Carvalho, 1998; Vilasco & Bondurand, 1995). This has been attributed to the child’s limited physical and cognitive vulnerabilities, its dependence on its caretakers, and the role of the environment, or various interactions between these (Forjuoh, 2006; Van Niekerk et al., 2007). Caregiver testimonies highlight the contribution of necessary social tasks, including chores, child care, unexpected events and crises, and work in undermining the caregiver’s ability to supervise and protect the child in hazardous home environments. Despite recognising their adverse circumstances, caregivers nonetheless experience child supervision and protection as their primary responsibility (Morrongiello, 2005; Saluja et al., 2004).

**Household spatial arrangements**

The harmful impact of impoverished settings on children is asserted to be the result of an accumulation of physical and psycho-social conditions, many of which typically co-vary (Evans, 2004). In particular, restricted home spaces augments the child’s proximity and exposure to domestic appliances and heat sources, with exposure often exacerbated by sudden and unexpected changes to household or child-care routines. The impact of the internal spatial arrangements of low-income homes is a neglected research area in the public health arena, but one recently identified as an area of acute concern in impoverished South African settlements (Seedat, Baadjies, Van Niekerk & Mdaka, 2006). The physical spaces where burn injuries occur are usually small homes, comprising one or two rooms with further temporary internal divisions made of curtains or tall boards. These rooms are utilised for various functions, depending on the times of day and the family’s particular requirements for sleeping, washing, cooking activities, meal-times (Seedat et al., 2006) and in this and other contexts, as a working space (Kellet & Tipple, 2000). In such living spaces the child has nearly permanent access to thermal equipment (Godwin, Hudson & Bloch, 1996; Zwi et al., 1995). Some of this equipment has a documented impact on childhood burn injury, such as kerosene stoves (Kalayi & Muhammad, 1994) and hot water cylinders with excessive water temperatures (Katcher, 1987), but others include informal outdoor heating appliances, and stoves and ovens that are unsteady or inappropriately secured. Despite the prioritisation of electrification in South Africa, it is anticipated that low-income families will continue to rely on kerosene, coal or wood-fired stoves for cooking and heating tasks, and low-quality, hot water cylinders, because of the cost of both electricity and safe essential electrical appliances (Sustainable Energy Africa, 2003).

**Racialised poverty**

There are significantly higher rates of burn injury amongst black, compared with white or coloured children, a likely reflection of greater exposure levels. This is consistent with this group’s historical
marginalisation from social resources such as education, health and others. Despite the country’s social transformation, its current stability and its relative wealth, Africans as a group, continue to report lower income levels, literacy rates and overall health status, and higher levels of household crowding, with widening intra-group economic differences (Day & Gray, 2003). These social variables have been associated with greater childhood burns, specifically low socio-economic status of the family (Delgado et al., 2002; Petridou et al., 1998), low educational levels of the mother (Daisy et al., 2001; Petridou et al., 1998; Werneck & Reichenheim, 1997), and psycho-social stress in the family (Werneck & Reichenheim, 1997). In addition, neighbourhoods have poor living conditions (informal dwellings, kerosene usage, and restricted access to running water and flushing toilets), high child dependency (high child to-adult ratios) and socio-economic barriers (unemployment and high economic and household demands on female household-heads). A number of specific elements related to poor housing conditions and high socio-economic barriers include aspects of the informal dwelling structure (Delgado et al., 2002), such as the lack of demarcations of cooking and washing areas (Delgado et al., 2002; Petridou et al., 1998), the storage and use of paraffin or kerosene (Forjuoh et al., 1995; Kalayi & Muhammad, 1994), household crowding (not necessarily child crowding) (Daisy et al., 2001; Petridou et al., 1998), and female-headed households (Pomerantz, Dowd & Buncher, 2001), all of which have indicated varying degrees of impact on childhood burns or other injury outcomes. It has been argued that globalisation has exacerbated many of the adverse social conditions faced by under-resourced countries and settings (Hurst, 2007), with greater unemployment, especially amongst lower-skilled workers and resultant increases in poverty and social inequality (Milanovich, 2008).

FROM REHABILITATION TO ENVIRONMENTAL AND TECHNOLOGICAL PREVENTION INTERVENTIONS

Rehabilitation and socio/psychological support

The psycho-social care of burn survivors is an essential component of the rehabilitation process, particularly given the increased likelihood of survival from burns (Blakeney, Partridge & Rumsey, 2007). South Africa, however, presents with challenges characteristic of LMICs, namely the shortage of specialised burn care units (Albertyn, Bickler & Rode, 2005) and the critical shortage of trained rehabilitation professionals (Albertyn, Van As & Rode, 2008). Where available, the physical survival and recovery aspects are emphasised to the detriment of emotional recovery and community reintegration (Albertyn et al., 2008). Interventions at a social and psychological level have only begun to emerge with several local agencies attempting to address these gaps in South Africa (see Table 2). However, for the most part, no specific research exists that documents the success of such interventions in the local setting. Consequently, the review that follows explores psycho-social interventions for paediatric and adolescent burn survivors in the international literature, though most of this emerges from the United States.

Social support interventions

Burn camps

The concept of the burn camp in South Africa may prove to be an important intervention to meet the growing psycho-social needs of burn-injured children and adolescents in rural communities, particularly where psycho-social support is lacking (Doctor, 1992). Although burn camps have been identified as serving either a therapeutic/rehabilitative function (i.e., to nurture confidence and self-esteem) or
recreational purpose (i.e., to provide an ‘escape’), (Cox, Call, Williams & Reeves, 2004), the enhanced efficacy of one approach over the other has not been demonstrated (Doctor, 1992; Williams, Reeves, Cox & Call, 2004). Studies have shown mixed results between quantitative and qualitative measures.

Nevertheless, burn camps appear to have a favourable influence on issues of body image, self-esteem and social relationships, making this a suitable intervention, particularly with older children and adolescents (see Table 3). A minimum two-year adjustment period following a burn injury appears to be the standard time for recruitment of children for camps (Blakeney et al., 2005).

**Burn survivor and family support groups**
Social support groups are shown to minimise feelings of isolation and powerlessness, facilitate psychological adjustment (Preston-Shoot, cited in Thornton & Battistel, 2001), provide mutual emotional support (Collings, 2004), and enhance social skills and coping ability (Chedekel & Tolias, 2001) among burn survivors. The involvement of skilled professionals as facilitators, however, is necessary to manage group anxieties and circumvent difficult dynamics associated with psychological transference (see Cooper & Burnside, 1996; Partridge & Robinson, 1995; Wiens & Kellogg, 2000).

As a modality which requires cognitive capacity to understand and share experiences, it may be more suitable for older children and adolescents (see Table 4). Beyond survivor circles, support groups for families have shown to facilitate family adjustment necessary for patient recovery (e.g., receiving treatment and financial-related information, gaining emotional support from other families and having the opportunity to resolve feelings of resentment (Bauman & James, 1990). Like burn camps, support groups offer a viable alternative to psycho-social intervention in South Africa, particularly for low-income families who typically would not have access to psychotherapy (see Frenkel, 2008).

**Psychological education: School or community re-entry programmes**
Public education plays a crucial role in sensitising the public around burn survivors, for instance,
through media coverage, talk shows and national campaigns (Doctor, 1992). For school-going children, psychological education is an important on-site intervention (e.g., pre-entry needs assessment and school re-entry programmes) (Quinn, 2007). Cognitive (i.e., changing attitudes) and affective education alleviates anxieties amongst the child, his/her peers and school staff, as well as fosters empowerment and autonomy among burn survivors and their families (Blakeney, 1995). Classroom interventions have shown to lead to improved self-esteem amongst disfigured pupils (e.g., Lovegrove, cited in Rumsey & Harcourt, 2003), and positive adjustment related to social interaction, school enjoyment and peer/staff support (Rosenberg et al., 2006) (see Table 3). Psychological education may accommodate different recovery phases (e.g., pamphlets to individuals and families about emotional and physiological trauma responses), and may be adapted for very young burn children (e.g., through story books and videos) (Nelson et al., 2006) (see Table 5).

### Table 3. Evaluations of burn camp impacts

<table>
<thead>
<tr>
<th>Context/Sample</th>
<th>Burn Camp evaluation findings</th>
<th>Reference</th>
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<tbody>
<tr>
<td>52 adolescents (13-20 yrs) from 3 burn camps [USA]</td>
<td>Focus group themes: camp affords burn-injured adolescents (i) a sense of belonging and acceptance, (ii) shelter from stares and questions, (iii) freedom from having to conceal their bodily scars, and (iv) learning on how to integrate their scars into their overall body image in a positive manner.</td>
<td>Cox et al., 2004.</td>
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<tr>
<td>43 campers (8-18 yrs) [Connecticut, USA]</td>
<td>Mixed results: increase in self-esteem (37%), no change (30%), and a drop in self-esteem (33%). The hypothesis that the burn camp experience enhances self-esteem was not supported.</td>
<td>Biggs, Heinrich, Jekel &amp; Cuono, 1997.</td>
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<tr>
<td>Total 77 campers (+ parents) over 4 years (7-16 yrs) [Manchester, UK]</td>
<td>Inconsistent results: little consistent change on self-esteem, social relationships, emotional and behavioural wellbeing over 5 years (quantitative findings); increased confidence and improved coping with burns for 1 year of camp (qualitative findings).</td>
<td>Gaskell, 2007.</td>
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<tr>
<td>19 children (12-18 yrs), 14 parents &amp; 20 staff members [Brussels, Belgium]</td>
<td>Majority of staff and parents’ evaluations of camps indicated psychological benefits for the attendees (66% and 68% respectively). Only 43% of children reported psychological gains (i.e., self-esteem, adjustment, social skills), 78%, enjoyed camp activities, 10% enjoyed the experience of mutual friendship, and 5% the interactions with the staff.</td>
<td>Maertens &amp; Ponjaert-Kristoffersen, 2008.</td>
</tr>
<tr>
<td>Total 52 children from 3 burn camps (13-20 yrs) [USA]</td>
<td>Focus group themes: camp is a place where burn-injured adolescents (1) feel ‘normal’ and accepted, (2) acquire insight into self and meaning in life, and (3) gain confidence, increase self-esteem and develop empathy.</td>
<td>Williams et al., 2004.</td>
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</table>
Psychological interventions

Social skills training
Social skills training aims to empower burn survivors in their daily social encounters (Partridge, 1998) by fostering strengths and abilities and encouraging social risk-taking, particularly in children (Steenkamp & Albertyn, 2008). Workshop settings provide a suitable platform (Partridge, 1998) for role-playing, modelling, coaching and positive feedback (Hurren, 1995). Specific cognitive behavioural techniques include diary keeping, relaxation, force field, self-beliefs and body language (see Bradbury, 1996) that targets behavioural modification and the challenge of unconstructive thought patterns to facilitate positive social interactions (Maddern & Owen, 2004; Partridge, 1998; Robinson, Rumsey & Partridge, 1996). Although its effectiveness for burn-injured adolescents has been demonstrated (e.g., Blakeney et al., 2005; Maddern, Cadogan & Emerson, 2006), further studies are needed to demonstrate its efficacy on paediatric populations (Kish & Lansdown, 2000) (see Table 6).

Table 4. Support groups

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<th>Context/Sample</th>
<th>Support group evaluation findings</th>
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<tr>
<td>20 adolescents (12 males, 8 females; 11-20 yrs) [Boston, USA]</td>
<td>Questionnaire results indicated that burn survivor support groups provide a positive therapeutic experience: sharing coping strategies (65%; n=13), meeting others in similar experiences (60%; n=12), and having the opportunity to express their feelings (50%; n=10). Ninety percent indicated willingness to recommend the group to others.</td>
<td>Chedekel &amp; Tolias, 2001.</td>
</tr>
<tr>
<td>Burn survivors and families (173 surveys evaluated) [Ohio, USA]</td>
<td>Post-burn retreat surveys reflected positive outcomes for burn survivors and their families: (i) opportunity to learn about strengths and weaknesses of other group members, (ii) shared knowledge of progressive improvement and provision of hope to those struggling, (iii) reinforcement that recovery is dependent on the individual’s pace and, (iv) assistance with self-esteem, self-image concerns and struggles with negative emotions.</td>
<td>Kereki et al., 2006.</td>
</tr>
<tr>
<td>2 groups: younger (&lt;11 yrs) and older (12-17 yrs) [Illinois, USA]</td>
<td>Recommendations based on a therapy group experience (within a burn camp): (i) social skills training may be beneficial in handling children’s concerns about teasing, (ii) incorporating fun activities through active group exercises may balance out seriousness of group discussion sessions, (iii) camp staff needs to be consulted comprehensively on psycho-social issues.</td>
<td>Wiens &amp; Kellog, 2000.</td>
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</table>
The nature of psychotherapeutic approaches utilised for burn survivors will vary according to the psychological needs during each stage of recovery (Blakeney et al., 2007). Psychological techniques, including hypnosis, relaxation and imagery and cognitive techniques, for instance, have been utilised during the acute phase where medical interventions focus largely on pain relief (Bryant & Touyz, 1996). Although it has been suggested that hypnotherapy, for instance, may be effective for reducing anxiety associated with pain in young children, (Patterson, Questad & Boltwood, 1987), support for this has been flimsy (Foertsch, O’Hara, Stoddard & Kealey, 1998) (see Table 7). Alternatively, a combination of methods has been proposed to deal with pain management and other stages of recovery (Schubart Walker & Healy, 1980) (see Table 3). The use of psychotherapy, however, during the recovery and rehabilitation phases is crucial. As the literature has indicated, post-traumatic stress symptoms are likely to manifest only months after the injury has occurred (Yu & Dimsdale, 1999). Pharmacotherapy and eye-movement desensitisation, psychodynamic psychotherapy and cognitive-behavioural therapy have been suggested as ideal for trauma management (Patterson, 1992). Empirical support for the efficacy of trauma-focused

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<th>Context/Sample</th>
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<tr>
<td>3-8 year olds (sample total not specified) [Arizona, USA]</td>
<td>Storybook and animated video intervention as an age-appropriate communication between child, parent and staff. Anecdotal evidence indicated that materials allowed children to feel more comfortable in the burn unit, enabled parents/staff to provide age-appropriate psycho-education to children about their burn injuries, improved overall communication and patient care and diminished the fearful experience associated with the injury.</td>
<td>Nelson et al., 2006.</td>
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<tr>
<td>134 children (82 males, 52 females) [Texas, USA]</td>
<td>Individualised videotapes and school visits by hospital staff were shown to facilitate burn-injured children’s return to school (with no significant differences between the two different interventions). Follow-up information for 90 children revealed that 90% reported that their child socialised with peers, received support from school staff and children and enjoyed going to school.</td>
<td>Rosenberg et al., 2006.</td>
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**Psychological assessment and psychotherapy**

The nature of psychotherapeutic approaches utilised for burn survivors will vary according to the psychological needs during each stage of recovery (Blakeney et al., 2007). Psychological techniques, including hypnosis, relaxation and imagery and cognitive techniques, for instance, have been utilised during the acute phase where medical interventions focus largely on pain relief (Bryant & Touyz, 1996). Although it has been suggested that hypnotherapy, for instance, may be effective for reducing anxiety associated with pain in young children, (Patterson, Questad & Boltwood, 1987), support for this has been flimsy (Foertsch, O’Hara, Stoddard & Kealey, 1998) (see Table 7). Alternatively, a combination of methods has been proposed to deal with pain management and other stages of recovery (Schubart Walker & Healy, 1980) (see Table 3). The use of psychotherapy, however, during the recovery and rehabilitation phases is crucial. As the literature has indicated, post-traumatic stress symptoms are likely to manifest only months after the injury has occurred (Yu & Dimsdale, 1999). Pharmacotherapy and eye-movement desensitisation, psychodynamic psychotherapy and cognitive-behavioural therapy have been suggested as ideal for trauma management (Patterson, 1992). Empirical support for the efficacy of trauma-focused

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<th>Context/Sample</th>
<th>Social skills training evaluation findings</th>
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<tr>
<td>64 adolescent burn survivors (12-17 yrs) [USA]</td>
<td>Following a group social skills training intervention, the treatment group showed greater improvement in psycho-social adjustment one year later as measured on the Child Behavior Checklist (CBCL) compared to control group (who only received their usual hospital treatments).</td>
<td>Blakeney et al., 2005.</td>
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<tr>
<td>29 children with disfigurement (4 from burns scarring) (5-16 yrs) [UK]</td>
<td>Intervention was based on 4 sessions of individual cognitive behavioural therapy (including social skills training and problem-solving) was effective in children with disfigurements who were mildly to moderately anxious and withdrawn. Parents’ reports on CBCL indicated positive behavioural changes over course of intervention (particularly in Somatic Complaints and Anxious/Depressed scales).</td>
<td>Maddern et al., 2006.</td>
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cognitive behavioural interventions in children is fairly strong (Stoddard, cited in Cohen, Mannariono, Berliner & Deblinger, 2000).

**Creative interventions/ expressive therapy**

Creative interventions aim to facilitate pathways to emotional healing and grieving over loss (i.e., body image, self-esteem, family) (Levinson & Ousterhout, 1980). For paediatric burn survivors in particular, creative modalities of play, art, music or dance, reflect developmentally-appropriate coping strategies which are action-oriented and external (Malchiodi & Perry, 2008). The use of music therapy and yoga on burn survivors, however, stress the physical benefits (e.g., Neugebauer, 2006; Tenenhaus, 2006). In general, the evidence to suggest the effectiveness of these treatments has been anecdotal (see Table 7). A holistic approach to burn care is an approach adopted by the Burns Unit at the Red Cross Children's Hospital (see Albertyn et al., 2008), where the use of touch therapies (reflexology and aromatherapy) is used alongside music and art therapy in the early rehabilitation phase, followed by yoga, creative play and music therapy in the second phase.

**Prevention: Environmental and technological interventions**

The improvement of home and neighbourhood environments, for example, via the provision of formal houses, electrification, access to safe cooking and other home appliances are key interventions in South Africa (Butchart, Kruger & Lekoba, 2000; van der Merwe & Steenkamp, 2007). Environmental modification and technological advancement are passive burn prevention approaches designed to make environments and products safer, irrespective of the behaviour of individuals (Atiyeh, Costagliola & Hayek, 2009; Gielen & Sleet, 2003). These measures are further strengthened by legislation that specifies the enforcement of safety standards (Atiyeh et al., 2009; Liao & Rossignol, 2000; Forjuoh & Gielen, 2008).

The physical environment can be created and amended to reduce the likelihood of injury (Hammond, cited in Atiyeh et al., 2009; Torrell & Bremberg, 1995). This includes the introduction of new or stricter building codes as well as the modification or improvement of construction materials (Forjuoh & Gielen, 2008). Housing layout

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**Table 7. Other psychological interventions**

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<th>Context/Sample</th>
<th>Findings/Conclusions</th>
<th>Reference</th>
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| **PSYCHOLOGICAL ASSESSMENT AND THERAPY**

8 yr old girl with 2nd-3rd degree burns [USA]  

Based on a case study report, the use of various psychotherapy techniques was shown to be effective in psychological treatment of burn patient. Behavioural techniques (e.g., relaxation training, emotive imagery, behavioural therapy) reduced anxiety during management of dressings. Over 10 week period, patient experienced reduced anxiety, had greater control over feelings, was proud of her achievements and enjoyed rewards obtained. The use of bibliotherapy and play therapy allowed patient to express and cope with emotions about body image issues.  

Schubart et al., 1980.

| **CREATIVE INTERVENTIONS/EXPRESSIVE THERAPY**

Art and play therapy as a projective technique, diagnostic tool and treatment modality. Anecdotal evidence suggested that children displayed reduced anxiety, mood elevation and cooperation with staff.  

Levinson & Ousterhout, 1980. |
improvements could ameliorate the exposure of children to certain parts of the home, such as the kitchen, or reduce the likelihood of electrical fires and electrocution (Van Niekerk, 2007). Hazards in the home can be reduced by a change in the design of home equipment (Forjuoh & Gielen, 2008; McLoughlin, 1995), as in cooking equipment (Forjuoh & Gielen, 2008; Van Niekerk, 2006), the isolation of cooking areas, e.g., by using stove guards (McLoughlin, 1995; Van Niekerk, 2006), and the separation of cooking areas from living areas (Forjuoh & Gielen, 2008).

Despite the increased electrification in South Africa, electricity tariffs have risen substantially, especially for the poor, thus sustaining the use of sources such as coal, wood and paraffin (Taylor, 2007). About 40% of South African households already use paraffin (kerosene) to meet some part of their domestic energy needs, as it is a more affordable option (Intern Africa, 2009; Matzopoulos, Jordaan & Carollisen, 2006). There is, however, a scarcity of safe appliances that use paraffin, with illegally imported stoves dominating in South Africa. A recent survey indicated that out of 141 stores, only 14 were selling the legal, though more expensive appliances (Intern Africa, 2009; Mabandla, 2009). An example of the latter is the Sri Lanka’s Safe Bottle Lamp Programme, which has demonstrated some effectiveness in preventing kerosene spills when stoves tip over (http://www.safebottlelamp.org/). However, a small number of evaluations of these interventions have been published, possibly due to the lack of funding to conduct such studies and partly due to lack of expertise in many of these LMICs (Forjuoh & Gielen, 2008). The liquid petroleum gas (LPG) and ethanol gels are advocated (Matthews, 2009) as safer more efficient alternatives to paraffin, with the latter more environmentally friendly (Byrd & Rode, 2005), although both are more expensive (Matthews, 2009).

The use of safety equipment, such as smoke detectors (Forjuoh & Gielen, 2008; McLoughlin, 1995; Van Niekerk, 2006) and automatic sprinklers (Forjuoh & Gielen, 2008; WHO, 2006) has been reported to be effective in high income countries (e.g., Forjuoh & Gielen, 2008; McLoughlin, 1995; Rivara, 1998). These measures are expensive to implement and maintain (Forjuoh & Gielen, 2008) and would thus be difficult to implement in LMICs such as South Africa.

**Policy and regulatory interventions**
The three most prominent and evaluated measures, with support for their effectiveness, involve laws on the temperature of hot-water taps, the banning of fireworks and standards for child-resistant lighters.

**Temperature of hot-water taps**
Decreased tap water temperatures are reported to significantly reduce child burns and scalds (Feldman, Schaller, Feldman & McMillon, 1998; NSW Health, cited in Public Health Association Australia, 2008). A number of countries have legislated the maximum water temperatures at tap outlets at 49°C to 54°C (Public Health Association Australia, 2008), while others identify 49°C as the optimal temperature of hot water delivery (Huyer & Corkum, 1997; Katcher, Landry & Shapiro, 1989; Waller, Clarke & Langley, 1993). The Washington State, USA, legislation in 1983 introduced the pre-settings of hot water temperatures to 49°C which saw a 50% reduction in tap water scalds hospital incidences (Feldman et al., 1998; Skelton, 2002). Consequently, 84% of homes changed to lower hot-water temperature taps. Countries such as Scandinavia and the Netherlands shared similar successes, having reported a lower incidence of bath scalds due to their water temperature control (Tennant & Davison, 1991). The hot water temperature for toddlers and children is recommended to be even lower, and restricted to a maximum of 38°C (Mather, 2006).
Burns

To reduce the temperature of the hot water delivered at the bathroom to 50°C the relevant Australian and New Zealand Standards were amended to enforce temperature control on newly installed hot water systems. Very often the control or regulation of this measure may be accomplished by altering the thermostat settings or by installing thermostatically controlled mixing devices; the installation of new valves and/or the use of end-of-line devices to shut off water flow above the set temperature (Huyer & Corkum, 1997; Waller et al., 1993). A thermostatic control valve is a device that automatically mixes cold water in the hot water supply at the point of use to bring the temperature down to the output temperature that conforms to the country’s national guidelines (Tees, Esk & Wear Valleys NHS Foundation Trust, 2008). Scald prevention campaigns (running across USA, Scandinavia, Netherlands and Australia) highlighted the importance of supplementary educational programmes with scald prevention legislation (MacArthur, 2003). This also resulted in an increased awareness of products that reduced scalds within the home environment. Other educational interventions successful in reducing burns in Norway (Ytterstad, 1995) and New Zealand (Waller et al., 1993) also aimed at reducing the hot-water temperature. At present there is no such legislation in South Africa.

Child-resistant lighters
The US Consumer Product Safety Commission (CPSC) authorised that all disposable and novelty cigarette lighters are child-resistant. There has been a 58% decline in child-play lighter fires since this standard has been in effect, and the number of deaths associated with these fires declined by 31%, resulting in annual savings of $125 million (Miller, Romano & Spicer, 2000; Smith, Greene & Singh, 2002). Other countries followed suit, in 2007 the European Union introduced laws requiring manufacturers and importers to comply with the European standard for child-resistant lighters (EUROPA Press Release, 2007). South Africa has as yet not instituted similar legislation.

Banning of fireworks
The use of multifaceted community campaigns, led to a successful reduction in firework injuries in Italy and Denmark. Considering the severity of injuries and the cost incurred, many high-income countries have banned firework purchase or ownership by children. These have resulted in a decrease in the number and severity of firework injuries. The Italian legislation for example resulted in a 32% decline in third degree burns related to firework incidences (D’Argenio, Cafaro, Santonastasi, Taggi & Binkin, 1996). The campaigns implemented in Italy and Denmark used legislation that was reinforced by school and community based educational campaigns. South African legislation also specifically controls when and where fireworks may be released (i.e. Guy Fawkes, Divali and New Year’s Eve days are accepted) (Mbengwa, 2008; Sargeant, 2007), but there is as yet no published indication of its effectiveness.

Child garment legislation
Another major source of child burns and scalds are those obtained from clothing ignition flames (Kalayi & Muhammad, 1994; Oglesbay, 1998). To address this risk, Western nations (such as the US, UK, Canada and New Zealand) began enacting legislative efforts on children’s clothing fabric content from the 1960s (Horrocks, Nazaré & Kandola, 2004; Langley & McLoughlin, 1988; Sian Elias, 2008). These efforts proved to significantly reduce thermal injury rates (Langley & McLoughlin, 1988). Legislative efforts on clothing garments are limited in South Africa, where the principal focus is located on safety efforts (i.e. from communities or non-governmental organisations [NGOs]) and the legislation placed on the safety mechanisms of appliances and/or its heating methods (Panday & Mafu, 2007).
Paraffin appliance standards

Educational strategies
Educational strategies when combined with legislation and standards, product modification appear to reduce the incidence of burns (Ballestros, Jackson & Martin, 2005; Forjuoh & Gielen, 2008). This is particularly the cases when there are behavioural prerequisites to the application of certain technological advances (Gielen & Sleet, 2003; McLoughlin, 1995). The individual’s effort is also needed for legislation to be effective (Gielen & Sleet, 2003), for instance, in the selection and purchase of safe stoves. Injury reduction often requires some element of behavioural change that involving the use of safer products and appliances (Gielen & Sleet, 2003), action by policy makers (Cataldo et al., 1986; Gielen & Sleet, 2003), and the establishment and maintenance of appropriate safety behaviour by parents, health educators and others (Cataldo et al., 1986).

Educational burn prevention programmes may involve the distribution of educational brochures and press releases to the public (i.e. universities, health agencies, fire fighters and NGOs), lectures, activity books, posters and demonstrations, among others (Maguina, Palmieri, Curri, Nelson & Greenhalgh, 2004; Mondozzi & Harper, 2001; Tan et al., 2004). It is important that the complexity surrounding the responsibility for burn education is accounted for – educators must play an active role in the education, as well as ensure that the target population can understand the level of such educational initiatives (Tremblay & Peterson, 1999). Similar burn prevention strategies may be used for both adults and children (MBC, 2009), but children are favoured as the logical target of burn prevention campaigns as they comprise the largest at-risk group to burn injuries (Hsiao et al., 2007).

Educational strategies may include, amongst others, first-aid treatment that includes the application of cool water to burns (Jandera, Hudson, De Wet, Innes & Rode, 2000; Mohan & Varghese, 1990), or the use of sand buckets in areas such as the kitchen, should clothes catch fire (Marsh et al., 1996), or Stop, Drop, and Roll programmes (Mondozzi & Harper, 2001). Studies have shown the usefulness of the media, in particular television, to promote accident preventative type of behaviour (Glang, Noell, Ary & Swartz, 2005; Vidanapathirana, Abramson, Forbes & Fairley, 2005; Wong et al., 2007). Educational programmes in schools and communities have also been shown to enhance burn safety knowledge among children and adults (Warda & Ballesteros, 2007). There is, however, little evaluation of the long-term prevention outcomes of educational prevention measures (Warda & Ballesteros, 2007).

PRIORITY RECOMMENDATIONS
Because childhood burns primarily occur in the home, the home is, thus, a key intervention site. Improvements to the home include the utilisation of appropriate construction materials; installation of electricity; the replacement of faulty, substandard paraffin appliances; the management of flammable
substances such as paraffin and gas; the control of ignition sources such as matches; and the development and provision or subsidisation of safe, low-cost stoves. The use of household technology with demonstrated effectiveness in HICs, such as temperature controls to hot water cylinders, smoke alarms and even automatic sprinklers, require consideration, particularly, passive and low cost interventions that are not dependent on extensive individual participation. There has in recent years, been considerable progress in meeting some social reconstruction and development objectives, e.g., housing targets, with over 2 million homes built since 1994. Others objectives, such as social inequality reduction, as may be manifest by declining income differentials and indirectly greater access to safer infrastructure, facilities and appliances, remains high and have even increased (Day & Gray, 2003). Poor families confront ongoing poverty barriers from the level of physical and financial deprivation, to inadequate safety interventions, to persisting social prejudice. There are thus persisting barriers to the implementation of promising safety measures, one of which is cost, and most of which are not easily modifiable. Others include the nature of most low-income homes (small, with constrained spaces), and the multiple and often complex daily demands on such families (Van Niekerk, 2007). South Africa still needs specific home safety policy and standards, whether it is for hot water temperature regulation, safe stove standards, garment specifications, or the control and sale of fireworks to the under-aged. Greater effort is also needed to ensure that the current or future legislation is effective and as far as possible complementary of everyday consumer practice. Burn-safety awareness needs to be promoted at all levels of educational media (i.e. posters, plays and television) to individuals of every age.

Psycho-social interventions for the many South African child-burn survivors have great potential value. Some (including, burn camps, support groups, arts) are beginning to gain ground. The role of psychological education in sensitising communities and the general public about the burn-injured individuals remains a necessary part of facilitating social and community reintegration. Other interventions, such as burn camps and support groups, are highly adaptable to semi-rural contexts where counselling and psychotherapy is not readily available. The success of these interventions is, however, still only anecdotally supported (e.g., Frenkel, 2008) instead of being substantiated by empirical research. This speaks to the lacuna in intervention research necessary to strengthen the foundation for tertiary prevention initiatives in our

### Key messages

- South Africa has a high rate of burns, with as many as 1300 children dying every year from these injuries, with many others hospitalised, with significant psychological, educational and social consequences for the child and family.
- Childhood burns are largely environmentally conditioned; successful burn prevention has involved safe home layout and design, electrification and the use of appropriate, low-cost cooking and heating appliances.
- Successful or promising legislative efforts include restrictions to the temperature of hot-water outlets, taps; paraffin cooking and heating appliance standards; and specifications to child garment composition.
- Education around burn prevention programmes offer a range of interactive learning methods to be utilised by both children and caregivers to increase and promote accident preventative-type behavioural responses; one example is the Learn not to Burn Curriculum, currently being piloted in South African pre-schools.
- Post-burn trauma interventions are important; interventions such as burn camps, support groups and social skills training require evaluation. In addition, the training of mental health professionals need to be extended to burn recovery rehabilitation settings which requires specialised methods of intervention for each recovery phase.
local setting. There is also a great need for adequately trained professionals to lead in individual and group-based psychological interventions as necessitated during each phase of physical and emotional rehabilitation.

There remains an overall lack of burn prevention and rehabilitation intervention research in South Africa, as for LMICs more generally. There have been few scientific trials of child safety interventions, although it is possible for existing interventions to be modified, adapted, and tested here (Norton, Hyder, Bishai & Peden, 2006). A South African research agenda has yet to be compiled, but is not by itself sufficient. A critical mass of people to conduct this research, prevention and rehabilitation work is essential. Thus, the inclusion of burn-safety in the curricula for the training of safety research and intervention staff is a high priority. Individuals need to be trained and institutions supported to institute this focus in their curricula and to support the implementation of quality scientific research, safety intervention training and internships, and greater rehabilitation opportunities.

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ABSTRACT
For the past three decades it has been known that considerable numbers of South African children have blood lead levels that exceed international guidelines. The health effects associated with even very low blood lead levels are beyond doubt, and include reductions in IQ scores, an inability to concentrate and learning difficulties. There is also an emerging body of evidence that links lead exposure in childhood with the emergence of aggressive and violent behaviour. Poor school performance and violence are two major socio-political concerns in South Africa, and comprehensive approaches to resolving these should include a focus on lead poisoning prevention. Two important milestones have been reached in recent years that will undoubtedly bring about a beneficial lowering of childhood blood lead distributions in South Africa: the phase-out of leaded petrol and the promulgation of legislation to control the use of lead in paint. On the whole, however, the approach to lead poisoning prevention in South African children has been piecemeal, and action has been tardy. Lead poisoning is preventable, and the prompt implementation of a comprehensive and integrated lead poisoning prevention strategy has been demonstrated to yield health, social and economic benefits that greatly outweigh the economic cost of implementation.

Keywords: lead poisoning, violence, children, South Africa

INTRODUCTION
Lead is a heavy metal that is found naturally in the earth’s crust. It has a low melting point, is malleable and also resistant to corrosion. Since it was discovered thousands of years ago, these properties have resulted in lead being used in a myriad of processes and products. However, there is now an overwhelming body of evidence associating lead exposure with a wide range of detrimental health effects. The use of lead increased dramatically around the time of the industrial revolution, making a major contribution to its current status as a global environmental contaminant and major public health concern. Before the industrial revolution, body lead burdens were more than 500 times lower than what they are today. Because lead is a persistent metal, and does not readily get converted to less toxic forms in nature, it is likely to remain of public health concern for generations to come, especially in low-income countries (Nriagu, 1983; Tong, von Schirnding & Prapamontol, 2000). The Chapter objectives are as follows:

a. To outline what is known about the impacts of lead exposure on children’s health and development.
b. Using the limited available information, to describe the lead exposure situation in South Africa in relation to children.
c. To describe the interventions undertaken in South Africa in recent years to limit childhood lead exposure.
d. To reflect on the essential outstanding actions...
needed to further reduce blood lead distributions in South African children.

**SOURCES OF EXPOSURE TO LEAD**

Natural sources of lead include volcanic activity, geochemical weathering and sea spray emissions. However, human extraction and use of lead has been the main cause of elevated public exposure to environmental lead. For example, lead was used in petrol for decades to improve engine efficiency (and still is in some countries), as well as lead-acid batteries, paint, solder, jewellery, plumbing, pottery, electronic equipment, cabling, ammunition, fishing and wheel balancing weights and leaded glass (Tong *et al.*, 2000).

With the proliferation, and rapid rate of replacement of computers, cellular telephones and other electronic equipment (often lead-containing), the disposal of electronic equipment is emerging as an important lead exposure concern. The concern is greatest in low-income countries because of transfer of electronic waste from high-income countries for disposal (Zheng *et al.*, 2008).

**PATHWAYS OF EXPOSURE**

Human exposure to lead may occur through direct dermal absorption, respiration or ingestion. Ingestion of lead-rich dust or soil, through the hand-to-mouth pathway, is by far the predominant route of lead exposure in children. Lead inhalation can also occur during unusual circumstances, such as heat gun stripping of painted surfaces, welding and burning of lead-contaminated items such as batteries, in or near children’s homes. In these situations, very fine particles of airborne lead are generated and can be inhaled by children, which may lead to severe cases of paediatric lead poisoning.

Young children absorb more lead from the environment than adults (Ahamed & Siddiqui, 2007). Children’s behaviour, including their natural tendency to touch and taste objects in their surroundings, may increase their risk of exposure to lead. Children with pica (a habit of eating non-food items such as soil or paint) or excessive mouthing behaviour are at particular risk of exposure to environmental lead. The risk of lead exposure is particularly high under the age of four years, when exploratory behaviour is at a peak. Children also retain more lead in their bodies than adults. In the body lead is distributed to several organs, including the brain, liver and kidneys, and is stored in the teeth and bones, where it accumulates over time. Children’s nervous systems are rapidly developing, and therefore more susceptible to lead-induced disruption (Finkelstein, Markowitz & Rosen, 1998).

Lead absorbed during childhood, and stored in the skeletal system, may subsequently be released from the bones during pregnancy, especially in cases of calcium deficiency. The placenta constitutes a weak barrier to the transfer of lead from mother to foetus during pregnancy, with the potential for lead exposure prior to birth. Maternal and foetal blood lead concentrations are usually highly correlated (Raghunath, Tripathi, Sastry & Krishnamoorthy, 2000). Thus, even in the absence of an obvious source of contemporary exposure to lead in pregnant women, the risk of foetal lead exposure remains, with the potential for lead-related health and developmental effects to occur before birth (Gulson, Mizon, Korsch, Palmer & Donnelly, 2003).

**HEALTH EFFECTS**

Worldwide, lead poisoning is an important public health problem, and accounts for nearly 1% of the global burden of disease (Fewtrell, Prüss-Üstün, Landrigan & Ayuso-Mateos, 2004). The toxic nature of lead was realised more than four thousand years ago. However, over the past century in particular, increasingly sophisticated epidemiological studies have more adequately revealed the wide range of health effects that can result from exposure to lead,
and that lead can cause health effects at blood lead levels previously thought to be safe.

Acute, high-dose exposure to lead can cause a variety of symptoms, including nausea, vomiting, abdominal pain, malaise, drowsiness, anaemia, headaches, irritability, lethargy, convulsions, muscle weakness, ataxia, tremors, paralysis, coma and death. However, lead has also been shown to affect health in children at very low levels in blood. For example, chronic, low-level exposure to lead is associated with lowered intelligence quotients (IQ), attention deficit disorder and aggression. In recent years, studies have linked lead exposure to neurobehavioral damage at blood levels of 5 µg/dl and lower (well below the current, internationally accepted action level of 10 µg/dl) (Needleman & Bellinger, 1981; Needleman, 2009). There appears to be no threshold level at which lead does not cause injury to the developing human brain (Gilbert & Weiss, 2006).

There is a small but growing body of evidence pointing to an association between environmental factors in general (Carpenter & Nevin, 2009), and more specifically, lead exposure, and violent or delinquent behaviour. A 2002 publication outlined the findings of a case control study conducted in the United States of America of elevated lead exposure in pre-school years and subsequent involvement in crime. The average bone lead level in those who had been involved in violent crime was 11.0 (± 32.7) ppm, while in control subjects the level was significantly lower (1.5 ± 32.1 ppm). The difference remained after taking account of confounding factors, and held true in both white and African American subjects (Needleman, McFarlans, Ness, Fienberg & Tobin, 2002). A prospective longitudinal study of lead and child development by Dietrich, Douglas, Succop, Berger and Bornschein (2001) confirmed earlier research pointing to a relationship between lead and anti-social behaviour. The Dietrich study showed that both prenatal and post-natal exposure to lead was associated with reported antisocial acts (Dietrich et al., 2001). A 2002 study, using data from the USA, Britain, Canada, France, Australia, Italy, West Germany and New Zealand (Nevin, 2007) showed a strong association between high blood lead levels during pre-school years and subsequent involvement in violent crime, with a lag period of around 20 years. The author postulated that the dramatic decline in juvenile crime observed during the 1990s in the USA may be attributable to the phase-out of leaded petrol, the ban on using lead solder in food cans and action to reduce childhood exposure to lead-based paint in the 1970s.

In pregnant women lead can cause miscarriage, stillbirth, premature birth and low birth weight. In men the effects of lead include decreased sperm count and increased number of abnormal sperm. In the adult population in general, lead has been associated with hypertension, renal damage and cardiovascular disease.

**LEAD EXPOSURE IN SOUTH AFRICA**

Children in low-income countries are usually at elevated risk of exposure to lead, involving multiple sources and higher levels of exposure than observed in high-income countries (Nriagu Blankson & Ocran, 1996). African children, in particular, may be at high risk of lead exposure and poisoning as a consequence of a paucity of information available to the public on the sources and mechanisms of exposure to lead in children, ongoing use of lead in many products, inadequate regulatory frameworks, weak enforcement of existing legislation, high levels of poverty and inequity, poor housing conditions and extensive malnutrition (Nriagu et al., 1996; Tong et al., 2000).

Lead was first discovered in South Africa in 1782 and the country continues to be a major producer of lead in the world (Dziubinski & Chipman, 1999; Snodgrass, 1986). The Black Mountain mine near...
Aggeneys in the Northern Cape is the main mining site (Joseph & Verwey, 2001). Studies conducted at mines around the world have shown that children living in close proximity to a mine may be at increased risk of lead exposure (Lyle et al., 2006; von Schirnding et al., 2003). Batteries account for around 80% of lead use in South Africa, but are not the main cause of widespread lead exposure in children. Exceptions include the children of parents who work in battery manufacturing or recycling plants, who may transfer lead particles from work to home on their clothing. Para-occupational exposure to lead (through transfer of lead particles from workplaces into home settings) is also a concern in industries such as mining, spray painting workshops and construction sites. In the informal sector, homes may be used as a site for the dismantling of batteries to extract and sell the lead plates; in such homes residents, especially children, are at risk of severe lead poisoning (refer to Box).

Until the mid-1980s the maximum permissible petrol lead concentration in South Africa was 0.836 g/litre; amongst the highest concentrations ever used anywhere in the world. Commencing in 1986 the maximum petrol lead concentration was reduced in phases until 2006, when exclusive use of unleaded petrol was instituted (Mathee, Röllin, Levin & Naik, 2007).

Lead compounds have been added to paint all over the world to protect against corrosion, for pigmentation and to increase the speed at which paint dries. However, the peeling or weathering of old lead-based paint from walls, doors and windowsills of homes, schools and other buildings may emit lead particles into the local environment. Lead-based paint was first recognised as a source of childhood lead poisoning in Australia in 1904 (Gibson, 1904). With growing awareness of the neurological damage suffered by children after ingesting lead-based paint, the International Labour Organisation (ILO) acted to prohibit the use of white lead in paint (ILO, 1921). Around the 1970s many countries drafted legislation to also control the use of other forms of lead in paints intended for household and general use. The use of white lead in paint in South Africa was abolished late in the 1940s. Other forms of lead remained unregulated, and were freely used in paints manufactured in South Africa. A 1970s voluntary agreement among some paint manufacturers in the country to limit the addition of lead to paint was not adhered to by all signatories. Regulations to control the use of lead in paint were published for comment in South Africa in 2008, and following subsequent promulgation, came into full effect only in 2010. However, past application of lead-based paint to homes, schools, toys, educational materials and playground equipment will result in ongoing exposure to lead-based paint, especially in areas of poverty.
In a Johannesburg study to determine lead concentrations in paint on the walls of homes constructed over a period between 1901 and 2004, around 20% of homes were found to be coated with lead-based paint. Paint with a lead content that exceeded international guideline levels was found in old as well as recently constructed dwellings (Montgomery & Mathee, 2005). In 2008 the Medical Research Council conducted a survey of the lead content of paint applied to playground equipment in 49 public children’s play parks in the Gauteng municipalities of Johannesburg, Tshwane and Ekurhuleni. The results showed that paint lead concentrations measured up to 10.4 mg/cm² (compared to the international reference level of 1 mg/cm²) and that lead-based paint could be found on equipment in 96% of play parks. In the majority of parks studied, paint was found to be peeling and detaching from the park equipment (Mathee et al., 2009b). In 2004 and 2005 researchers at the Medical Research Council purchased paint samples from stores in Johannesburg and Cape Town for lead content analysis. While elevated lead concentrations were not found in water-based paints, concentrations of lead as high as 189 000 µg/g (compared to the reference value of 5 000 µg/g) were found in pigmented enamel paints. A further study of the lead content in paint on children’s toys purchased from popular stores showed lead concentrations up to 145 000 µg/g (Mathee et al., 2007).

During the first decades of the 20th century lead plumbing and lead-lined water tanks were widely used in the Cape, leading to high levels of lead in domestic water and widespread lead poisoning (Grobler, Theunissen & Maresky, 1996). By the 1930s, lead poisoning was regarded as a serious enough concern in Cape Town to warrant the formation of a special commission to investigate the problem. On the recommendation of the commission lead water storage tanks and plumbing were replaced on a city-wide basis with water treatment plants and copper pipes (Retief-Steyn, 1976). More recent data indicate that lead levels in water are generally low in South Africa.

Some communities may be at serious risk of lead poisoning because of traditional or cultural practices. For example, anecdotal reports have been received of the contents of lead batteries being ground and added to a mud mixture to impart a desired hue on the walls and floors of adobe dwellings. High levels of lead have also been found in some Chinese and Indian traditional and herbal medicines. Topical agents applied around the eyes, such as surma or kohl, may also have highly elevated lead concentrations (Al-Ashban, Aslam & Shah, 2004). In some cultures women traditionally eat soil or other non-food items during pregnancy (geophagia or pica). Soils extracted from some locations can contain high levels of lead, leading to high blood lead levels in both mother and foetus (Shannon, 2003).

POVERTY AND LEAD POISONING

In contrast to Roman times, when elevated lead exposure was a particular concern amongst the wealthy classes, in the present time elevated lead levels are principally a problem among socially and economically deprived children. Poor people are more likely to live in substandard housing or near industrial centres and heavily trafficked areas. In lead-related industries, low-income workers are more likely to be exposed to lead, and to transport lead particles from the work environment into their homes on their hair, skin, clothing and motor vehicles. A greater likelihood of nutritional deprivation in poor communities also increases their susceptibility to lead exposure (since lead competes with calcium for absorption) and lead-related ill health effects (Tong et al., 2000).

Epidemiology of Childhood Lead Exposure in South Africa

There is no national blood lead surveillance programme in place in South Africa, nor has a
comprehensive, nationwide survey been conducted in the country. Lead poisoning is a notifiable disease in South Africa; however it is likely that considerable under-reporting occurs. The information available to paint a picture of childhood lead exposure in the country has been obtained from sporadic site-based studies conducted by various groups. From such sources we know that in 1974 for example, six children were admitted to the Frere Hospital in East London with severe lead encephalopathy. The blood lead levels of four of the children ranged from 106 to 290 µg/dl (the blood lead levels of the remaining two children were unknown). Initial misdiagnoses occurred in four of the six cases. At least two of the six children are known to have subsequently died (Harris, 1976). In 1993 Rees and Schneider reported on the case of a 3-year old Soweto child who had been admitted to hospital with signs of severe lead poisoning and a blood lead level above 100 µg/dl. Further investigation determined blood lead concentrations of 78 µg/dl and 96 µg/dl in two other children living in the same house. Damaged car batteries were found in the yard, and it was determined that household members had been removing lead plates from old car batteries for sale. Researchers at the Medical Research Council continue to receive enquiries from the public about backyard and informal sector dismantling of car batteries, though there is usually reluctance to provide details to support investigations for fear of loss of jobs or income.

Currently the internationally accepted action level for lead in blood is 10 µg/dl. However, with increasing evidence of health effects below this level, there have been calls for a lowering of the action level to 5, or even 2 µdl (Gilbert & Weiss, 2006). In 1990 a study of the cord blood lead levels of 881 newborns in the Birth to Twenty cohort showed that by the time they were born, many Soweto babies had already been exposed to lead (Mathee, von Schirnding, Ismail & Huntley, 1996). Their blood lead levels ranged from 2 to 20 µg/dl, with the mean level equalling 5.9 µg/dl. Similarly, in a sample of 21 newborns at a Durban hospital the mean cord blood lead was 15.53 ± 4.80 µg/dl. The cord blood lead levels of 95% of the newborns exceeded the internationally accepted action level of 10 µg/dl and in one case the cord blood lead level exceeded 25 µg/dl (Chetty, Jinabhai & Green-Thompson, 1993).

In 1986 a paper was published on the blood lead distribution in 293 Cape Town pre-school children aged four to six years. The mean blood lead level was 16 µg/dl (individual levels ranged from 2 to 49 µg/dl). The blood lead levels of 85% of the children were 10 µg/dl or higher, and 4% had blood lead levels of 30 µg/dl or above. Children with elevated blood lead levels tended to live in inner city suburbs, and in homes close to a busy road. High lead concentrations were found in paint, soil and dust samples taken from the homes of children with the highest blood lead levels. Mouthing behaviour was most pronounced amongst children with the highest blood lead concentrations (Deveaux, Kibel, Dempster, Pocock & Formenti, 1986).

The first indications of high blood lead levels among Cape Town school children emerged from a screening study undertaken by von Schirnding and colleagues in 1982, at a time when the maximum permissible petrol lead concentration in South Africa was 0.836 g/litre. Among 1 234 coloured grade one and two children attending schools in the Cape Peninsula, the average blood lead level of children from an urban industrial area was twice as high as among children from a suburban area (von Schirnding & Fuggle, 1986). At a school situated in Woodstock (close to the central business district of Cape Town), the average blood lead level was 22 µg/dl, while at a control school in Hout Bay, the level was 11 µg/dl. Seventeen percent of children from the Woodstock school had blood lead levels ≥ 30 µg/dl, while no children from Hout Bay had blood lead levels in this
range. Pilot investigations suggested no obvious lead source, such as lead plumbing or water with a high lead content, in the homes of children with the highest blood lead levels. There was, however, evidence of behavioural abnormalities in children with high blood lead levels (von Schirnding & Fuggle, 1984).

Following the screening survey, a cross-sectional, analytical study of Woodstock grade one school children was carried out, together with a nested case-control study to determine sources of lead exposure in the home environment among children with high blood lead levels, as compared to children with low concentration levels (von Schirnding, Bradshaw & Fuggle, 1991a; von Schirnding, Fuggle & Bradshaw, 1991b). The median blood lead level for all children living in the inner city study area of Woodstock was 16 μg/dl. A statistically significant difference in blood lead concentrations existed between white and coloured children, with the former having a mean level of 12 μg/dl and the latter a mean of 18 μg/dl. Thirteen percent of coloured pupils, and no white pupils, had blood lead levels of 25 μg/dl or higher. Mean blood lead levels also varied significantly across schools (8 to 21 μg/dl). There was a strong association between mean blood lead levels and the proximity of schools to busy roads, even after taking account of socio-economic factors. In coloured schools located in high traffic density areas median blood lead levels ranged from 18 to 21 μg/dl; in schools away from heavy traffic median blood lead levels averaged around 13 μg/dl. Other factors found to be associated with children’s blood lead levels included the state of their housing, certain cultural factors, and home language (von Schirnding et al., 1991b).

From the nested case-control study it emerged that certain physical and social characteristics of the child’s home environment were important, as well as factors relating to behaviour. Sources of lead were found in the homes of both cases and controls, but were more accessible in the homes of cases than of controls. The homes of cases were in a more dilapidated state than those of the controls, with more flaking lead paint and more lead-rich dust, and were also in considerable need of attention as far as overall domestic hygiene was concerned. Lead levels in water, air and street dust were not found to vary significantly between cases and controls, nor were there significant differences with respect to the overall nutritional status or reported dietary habits of children. However, the homes of cases were found to be more crowded than those of the controls, and the mother’s level of schooling, as well as the total family income was lower among cases than controls. Previous history of pica also differed between cases and controls. Although most children were not reported to have routinely ingested non-food items, and pica for paint was not a significant factor, more cases than controls had been observed to eat items such as plaster, cement, soil, sticks and matchsticks. Generalised mouthing activity was also more pronounced in cases than controls.

A repeat blood lead survey was carried out in 1991 (by which time the maximum permissible petrol lead concentration had been reduced from 0.836 to 0.4 g/litre) at the same schools (as in the 1984 study) as well as in comparison suburbs (von Schirnding, Mathee, Robertson, Strauss & Kibel, 2001). The results showed that insufficient time had elapsed for the reduction in petrol lead levels to translate into lower blood lead levels in children. In both 1984 (when the first cross-sectional analytical study was carried out) and 1991, the median blood lead levels were 16 μg/dl in the inner city Woodstock area, and more than 90% of children had blood lead levels above 10 μg/dl. However, by 2002, by which time unleaded petrol has been introduced in the country, blood lead levels in Cape Town children were shown to have declined significantly (Mathee, Röllin, von Schirnding, Levin & Naik, 2006).
A 1995 cross-sectional survey of blood lead levels in first grade Johannesburg school children showed that blood lead concentrations in that city were similarly high. Seven schools in three Johannesburg areas of relatively low socio-economic status were studied; three schools in downtown Johannesburg, two schools in the Alexandra Township and two schools in the townships of Westbury and Newclare. Blood lead levels for the total sample of 433 children ranged from 6 to 26 mg/dl, with the mean level equalling 12 mg/dl. No statistically significant differences in mean blood lead levels by area, or amongst the seven schools, were determined. The blood lead levels of 78% of children were 10 µg/dl or above. A number of risk factors and potential outcomes were associated with elevated blood lead levels. These included the mother having only a primary school education, the presence of smokers in the home, and regular consumption of canned foods. In addition, elevated blood lead levels were associated with the respondent’s perception that the child’s schoolwork was poor, and that the child was overactive (Mathee et al., 2002). A repeat survey in 2002 (by which time unleaded petrol had been introduced) in a similar group of Johannesburg schools showed that blood lead levels appeared to have reduced. In 2002 the mean blood lead level was 9.1 µg/dl and 35% of children had blood lead levels ≥10 µg/dl. Blood lead levels ranged from 1.1 to (SD 3.59). Further investigation of the subject with the highest blood lead level (44.4 µg/dl) indicated a severe case of pica for paint; the paint on walls of both her home and school were highly elevated (Mathee et al., 2007).

In a study of the blood lead distribution among more than 1 200 children from KwaZulu-Natal, the mean blood lead level in children from an informal settlement in Durban was 10 µg/dl. Five percent of children had blood lead levels ≥25 µg/dl. Risk factors for elevated blood lead levels included distance from tarred roads, overcrowding, household hygiene habits, and the use of solid fuels as a domestic energy source (Nriagu, Jinabhai, Naidoo & Coutsodis, 1997).

A rapid screening study undertaken in a 2007-2008 indicated a mixed picture of encouraging and worrying results. In some of the schools studied the proportion of children with elevated blood lead concentrations was relatively low; 9% in Mitchell’s Plain schools in Cape Town and 12% in two schools in Soweto. On the other hand however, in some locations, unacceptably high proportions of children had excessive concentrations of lead in their blood. For example in the Cape Town inner city suburb of Woodstock, 24% of children had blood lead levels that exceeded 10 µg/dl. In Johannesburg’s inner city suburbs even more children (54%) had high blood lead levels (Mathee et al., 2009a).

A blood lead survey was undertaken at a primary school in the lead mining town of Aggeneys, and in the comparison, non-mining town of Pella, located around 40 kilometres away. Eighty six children from Aggeneys aged between 6 and 10 years and 68 children from Pella were studied. Statistically significant differences in blood lead distributions between the two communities were found. Blood lead levels in Aggeneys averaged around 16 mg/dl, with 66% of children having blood lead levels > 15 mg/dl. In Pella, the mean blood lead level was 13 mg/dl, with 35% > 15 mg/dl. Blood lead levels in Aggeneys ranged from 9 to 27 mg/dl, and at Pella from 6 to 22 mg/dl. Aggeneys children were slightly taller and heavier than children from Pella. In general, the impoverished community in Pella lived in small houses (many of them make-shift), which were more dilapidated and densely populated than those of people living in the more affluent Aggeneys. More parents of children living in Aggeneys had a high school education (64% versus 43% in Pella) and more Aggeneys fathers had post-Matric qualifications (25% versus 0 in Pella). Further analyses of blood lead levels among children in
Lead Poisoning

the mining town of Aggeneys were conducted, comparing those with blood lead levels less than 18 mg/dl, to those greater than or equal to 18 mg/dl (18 µg/dl formed a mid-point within the distribution of blood lead levels in the sample). This revealed that within Aggeneys, more “low” than “high” blood lead children had a father with a post-school qualification, and that children who had failed a grade at school, had higher blood lead levels than other children. It was also found that children of fathers/male guardians who showered or bathed at home immediately upon returning from work tended to have lower blood lead levels than those who did not. Two-thirds of fathers of high blood lead children showered at work, compared to 41% of fathers of low blood lead children. A higher percentage of the former group had their clothes washed at work rather than at home, and none of the former group showered immediately upon coming home, whereas 19% of the latter group did so. The mean blood lead levels of children in both Aggeneys and Pella were higher than expected in a rural setting. Blood lead levels at Aggeneys in particular, which averaged around 16 mg/dl, were comparable to blood lead levels of Cape urban (inner-city) coloured children of a similar age (18 mg/dl) (von Schirnding et al., 2003).

DISCUSSION

Investigations have shown that multiple sources of environmental lead exist in South Africa. The studies outlined here show that exposure to lead in South African children is widespread, includes apparent “hotspots”, and may be commencing even prior to birth. Children living in deteriorating housing conditions, those with parents who work in lead-related occupations (in either the formal or informal sectors), as well as those with pica or excessive mouthing behaviour, are amongst the groups at highest risk.

There is now irrefutable evidence of the intellectual deficits and detrimental behavioural outcomes (shortened concentration spans and hyperactivity for example) associated with exposure to lead in children, even at very low levels of exposure. In recent years increasing attention has been devoted to the role of environmental factors in violent behaviour (Carpenter & Nevin, 2009). In respect of lead, in particular, a growing number of studies point to an association between lead exposure during childhood with later involvement in violent crime and delinquent behaviour (Needleman et al., 2002; Nevin, 2007). Violence and poor school performance are both major socio-political concerns in South Africa, with serious implications for the ability of the country and its people to reach their full potential.

Two important and commendable milestones have been reached in South Africa in recent years to bring down the level of lead exposure in children: the phase-out of leaded petrol and the promulgation of legislation to control the use of lead in paint. These actions are likely to contribute to reductions in the blood lead distributions in South African children as occurred elsewhere (Iqbal, Muntner, Batuman & Rabito, 2008). Overall, however, lead poisoning prevention efforts in the country have been tardy and patchy, and have lacked the holistic and intersectoral approaches that resulted in dramatic improvements in children’s blood lead levels in other countries. For example, while several countries acted to remove lead from petrol and paint in the 1970s, these achievements were only realised in South Africa in 2006 and 2009 respectively; a lag of more than three decades. As a result, the blood lead levels of large numbers of South African children continue to be unnecessarily high, with serious consequences for their ability to reach their full achievement potential and earning capacity in life.

While the mechanisms required to prevent undue lead exposure and poisoning are undeniably complex in nature, and need to involve multiple sectors and disciplines, the body of conclusive or growing
evidence of detrimental health and socio-behavioural effects associated with lead exposure, together with evidence of undue lead exposure in South African children, warrant a concerted effort to reduce blood lead levels in the South African population. Yet, lead poisoning prevention has seldom featured strongly, if at all, on health, education or violence prevention agendas in the country. In this regard, there is much that South Africa can learn from countries such as the United States of America, where a high level of success has been achieved in lead poison preventative efforts through a multi-sectoral and comprehensive approach, and where cost-benefit analyses have demonstrated that the social and economic benefits that accrue from national action to prevent lead poisoning greatly outweigh the cost of such action.

In relation to the USA and other countries where average child blood lead levels are now around 2 µg/dl and below, a major obstacle to mounting an effective lead poisoning prevention programme in South Africa is the absence of a national blood lead surveillance system and of blood lead screening programmes, even in high-risk areas and groups. A comprehensive research programme is also needed to identify sources and risk factors of local relevance. The availability of essential information for the identification of high risk groups, sites, items and practices for lead exposure will facilitate the necessary development of source control legislation, the promulgation of standards for lead in blood and key items and the development of screening and response protocols. Campaigns to educate the public, including parents, children, and officials from health, education and social development sectors about lead hazards have been implemented, but not in a comprehensive and sustained manner, and have also not been evaluated. In South Africa there is also a need to tackle the problem of lead exposure in the information sector or in home-based cottage industries. In taking lead poisoning prevention efforts in South Africa forward, a dedicated, cross-sectoral lead poisoning prevention unit is needed at national level to coordinate the effort, with strong links to equivalent structures at local level.

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ABSTRACT
Falls are the leading cause of injuries among children around the world, including South Africa. The incidence of falls depends on environmental and social factors, thus informing the strategy for preventing falls. Falls are defined by the World Health Organization (WHO) as “an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (Peden et al., 2008). The most common fall-related injuries among children aged 13 years and younger in South Africa are fractures and occur at the child’s home, school or crèche while walking or running. Risk factors are dependent on the individual child, the equipment or agent(s) used at the time of injury, and the child’s environment. All levels of society need to be involved in preventing and treating the injuries caused by falls, including parents, health care workers, caretakers, religious leaders, government officials, the media, city planners, and NGOs.

Keywords: children, fall injuries, epidemiology, prevention, interventions

INTRODUCTION
Falls are very common among children and represent the leading cause of unintentional injuries around the world and in South Africa. While most falls have little sequelae and no permanent medical consequences, falls account for between 25 and 52% of emergency room assessments in most countries (Bartlett, 2002; Khambalia, Joshi, Brussoni, Raina, Morrongiello & Macarthur, 2006). It is important to note that the incidence of falls is not equally distributed amongst communities and societies; they are very much dependent on environmental and social factors. The incidence of falls can also vary depending on location within a country, from high-income areas to low-income areas. Injuries as a result of falls are not considered accidents for this reason; their distribution is not random and they can be prevented. This Chapter will take a public health approach to childhood falls. Firstly, an overview is provided regarding the classification of falls in childhood. This is followed by a detailed discussion of several types of exposure and risks. Finally, intervention strategies for the prevention of falls, both domestic and international, will be discussed. While this is not a complete study, it does provide the grounding for future research on the incidence of falls in children and the prevention thereof.

This Chapter describes the causes and risks for childhood falls in South Africa. It also aims to supplement the largely internationally-focused research on the subject by placing childhood falls in a South African context. The Chapter examines the epidemiology of falls and risk factors. Furthermore, it describes interventions and recommendations to prevent the incidence of childhood falls in South Africa. This Chapter discusses:
The definition and classification of falls.

b. The epidemiology, common injuries, and risk factors in a South African context (including factors dependent on the child, agents and environment).

c. Intervention strategies and recommendations for the prevention of falls and injuries.

Terms and definitions

According to the WHO, the definition of a fall is “an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (Peden et al., 2008). Among children, this includes, but is not limited to: falling from a bed, on stairs, from his/her attendant’s arms, from playground equipment, from mobiles, or on level ground. It has to be noted that the WHO definition excludes all falls as a result of assault, suicide attempts and animals as well as falls into water. According to the National Institute of Child Health and Human Development, the loss of balance and gravitational forces are paramount in falls (Christoffel et al., 1992). Based on these factors, falls can be classified into four basic groups: falls while walking or running, falls from heights, falls while participating in recreational activities, and falls during competitive sports (Britton, 2005).

EPIDEMIOLOGY OF CHILDHOOD FALLS

Children are especially prone to injuries related to falls. Falls are the leading cause of admission to emergency rooms in South Africa and around the world for children under 14 years of age (Britton, 2005; CAPFSA, 2010). The manner of the fall also greatly influences the potential injury that may occur, but there are definite patterns to the occurrence of falls. The most common injuries, by far, are upper limb fractures followed by head injuries. Based on data from the Red Cross War Memorial Children’s Hospital (RCCH) Trauma Unit, the leading injuries for each category are depicted in Table 1.

Amongst children under the age of 15, non-fatal falls were the 13th leading cause of lost disability-adjusted life years (DALYs). In nearly all countries from which we have published data, falls are the most prominent cause of emergency unit attendance (between 25 and 52%) (Peden et al., 2008).

Since the RCCH started accumulating and analysing its trauma unit records in 1992, the cause of most injuries were falls (Figure 1). The most common fall injuries among children under 13 in South Africa occur while walking or running at the child’s home, school or crèche. The second-most common fall

Table 1. Categorisation of falls according to Britton (2005); data from CAPFSA (2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Likely injuries</th>
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<tbody>
<tr>
<td>1</td>
<td>Falls while walking or running</td>
<td>• Fracture (wrist, forearm, elbow);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Closed tissue (elbow, scalp, wrist, knee, skull, forearm, hand, ankle).</td>
</tr>
<tr>
<td>2</td>
<td>Falls from heights</td>
<td>• Fracture (elbow, femur, shoulder girdle, forearm, skull);</td>
</tr>
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<td></td>
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<td>• Closed tissue (scalp, skull, face, brain – closed, forearm, elbow);</td>
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<td></td>
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<td>• Abrasions (scalp, skull);</td>
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<td>• Concussion;</td>
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<td></td>
<td>• Superficial laceration (scalp, face, mouth, skull).</td>
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<tr>
<td>3</td>
<td>Falls while participating in recreational activities</td>
<td>• Fracture (forearm, elbow, wrist);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abrasions (scalp, skull, face, mouth, ankle);</td>
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<td></td>
<td></td>
<td>• Closed tissue (scalp, elbow, foot, skull, face, knee);</td>
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<tr>
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<td>• Superficial laceration (mouth, face, scalp).</td>
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<tr>
<td>4</td>
<td>Falls during competitive sports activities</td>
<td>• Fracture (forearm, elbow, wrist);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Closed tissue (elbow, scalp, wrist, knee, skull, forearm, hand).</td>
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injuries are from heights, including trees, walls and beds, followed by falls from playground equipment (Figure 2).

**Mortality**

Globally, approximately 50 000 children die each year from falls. Mortality is particularly high in the young age group (children under the age of one year) in low- and middle-income countries. Boys, as in the majority of other childhood injuries, are at a substantially higher risk for mortality as a result of falls, when compared with girls; the rate varies from 1.2:1 to 12:1 (Peden *et al.*, 2008). Additionally, falls from heights pose the largest risk of mortality (Lallier, Bouchard, St-Vil, Dupont & Tucci, 1999). Of the fatalities caused by falls in South Africa for children younger than 15 years, 53% of the total of 19 cases occurred among children between 1 and 4 years of age (National Injury Mortality Surveillance System [NIMSS], 2005). This is due to the increased mobility and curiosity of children at this age. Furthermore, the height of the fall is an important consideration. Studies in New Zealand indicated that children falling less than 1.5 meters are far less likely to be seriously injured than those falling from a height of more than 1.5 meters (Chalmers & Langley, 1990).

**Morbidity**

While the extent of non-fatal injuries is unknown, studies from China (Jiangxi Centre for Disease Control, 2006) demonstrated a ratio of 690 cases of missed work or school or incidents requiring medical treatment, to 24 cases requiring hospitalisation, a further 13 cases requiring prolonged hospitalisation, to four cases developing permanent disability, to each single death. It is also estimated that at least 50% of the total number of disability adjusted life years, or DALYs, that are lost are due to falls in children under the age of 15 (Krug, Sharma & Lozano, 2000; WHO, n.d.). DALYs include not only years lost to premature death, but also the years that one lives with a disability (Peden, McGee & Sharma, 2002).

The severity of the injuries sustained by a child depends on several factors, including the anatomical features of the affected child’s body and the force of
the fall, the way the child is dressed during the fall, as well as the substance of the ground surface on which the child falls (Buckman & Buckman, 1991; Warner & Demling, 1986). This is especially clear in playground injuries; studies have shown that the risk of serious injury in children is much greater on asphalt or grass than bark or sand (Norton, Nixon & Sibert, 2004).

A Nigerian study performed in 1999 revealed that only 25% of childhood falls required hospitalisation. This may, however, be more indicative of the medical care available, depending on the severity of the falls (Peden et al., 2008). It is well-known that serious injuries and fatalities are higher in children from poor areas (American Academy of Paediatrics, 2001). Common fall-related injuries differ depending on socio-economic status; children in poorer areas are more likely to sustain open wounds from recreational activities while playing outside, whereas children from a more privileged background are more likely to suffer strains while playing at a sports facility (Ni, Barnes & Hardy, 2002).

Head trauma
As indicated before, falls are the most common cause for children’s emergency unit attendance in most countries. Falls are also the cause for 90% of the total number of head injuries treated in trauma units (Pickett, Streight, Simpson & Brison, 2003). Notably, the likelihood for a head injury in children is increased because the head represents a much greater part of the total body as compared to adults. This leads to a significantly higher number of head injuries in injured children. In a study of children falling from heights, 48% of the patients who suffered head trauma were under the age of five (Lallier et al., 1999). Of the 786 children at the RCCH in Cape Town who sustained head injuries for a fall in 2008, 22.4% were under the age of one (Child Accident Prevention Foundation of South Africa [CAPFSA], 2010). Head trauma caused by falls from beds are also notable; in a study in the UK on childhood falls from a bed, 32% sustained a head injury, many of whom were asleep at the time (Macgregor, 2000).

Fractures
When a child falls, it naturally tries to protect the head with the arms, leading to a high number of upper limb fractures. At the Red Cross Children’s Hospital, 39% of children visiting the trauma unit for falls in 2008 suffered fractures, 73% of which were upper limb fractures (CAPFSA, 2010). This is an important issue, especially in lower-middle-income countries, because medical treatment often fails to adequately deal with this type of upper limb fractures, resulting in permanent disability (Dhillon, Sengupta & Singh, 1988; Mock, 2001). This has major implications for the total costs of childhood injuries. While fractures are generally not severe injuries, a lack of treatment can still have major implications. A preliminary study from Vietnam revealed that health care fees and income lost due to an injury prevented people from rising out of poverty (Thanh et al., 2006). A disabled child will be unable to contribute adequately for his or her own income later in life as well as that of their family. As has been noted before, a serious lack of reliable data on childhood injuries in general, but more particularly with regard to falls, may underestimate the serious sequelae of childhood falls.

RISK FACTORS FOR FALLS
There are numerous risk factors for falls and for the purposes of clarity they will be discussed under the following three headings: (1) child risk factors, (2) risk factors related to agents and (3) environmental risk factors.

Child risk factors
Because children need both stimulation and safety, it is a very important point to realise that falls may be considered as part of the normal learning curve in a child’s development and falls are common, especially during the time when
children start walking. Furthermore, while these children are bound to explore their environment, their neuro-developmental immaturity increases their vulnerability for injuries such as falls. A study of English children revealed that these children recognise the need to be safe and prevent injuries, but often disobeyed the advice of parents or teachers because it would be “boring” to be so safe (Green & Hart, 2002, p. 17). This common attitude among children demonstrates the need to balance the priority of preventing injuries while still allowing children to grow and explore their environment.

Biological factors also influence children’s risk of injury from falls. Boys outnumber girls in nearly all type of unintentional injuries, and falls are no exception. Both biological (i.e. testosterone levels) and cultural factors may be of importance here. Boys are known to be more impulsive, hyperactive and aggressive (Iltus, 1994). However, the predominant risk is dependent on environmental, rather than biological factors.

Nutrition also plays a role in the risk of injury. The child’s economic situation and geographic location impacts upon access to good nutrition, thereby affecting health. Of the estimated 800 million people who are undernourished, half of these live in Africa (Wlokas, 2008). As noted earlier, children in poorer areas are more likely to be injured, reflecting the fact that these children are also less likely to receive their daily nutritional requirements.

**Risk factors related to agents**

A number of childhood toys as well as transport devices are of inadequate standards and unsafe for children. Devices such as skateboards, heelies, roller skates and bicycles are often offered to the child without adequate safety guidelines. Many children are prone to falls in especially the first days and weeks after the provision of these devices. At the Red Cross War Memorial Children’s Hospital in Cape Town we have encountered epidemics of fall-related injuries when new products (such as heelies) were introduced to the market. Research indicates that children are especially vulnerable during the first phases of adapting to a new toy or transportation vehicle. Data from the Consumer Product Safety Commission of the US, for example, reveals that as scooters gained popularity in the year 2000, the number of injuries increased by 700% from less than 10 000 in 1999. Scooter-related injuries reached a high in 2002 with approximately 90 000 injuries, then declined to just over 50 000 in 2003 (Powell & Tanz, 2004). If the child is allowed during this initial period to utilise the new agent in the public domain, such as pavements, shopping centres and roads, the risk for injuries is significantly increased. It, therefore, would be advisable to keep children indoors or within the yard around the house as well as using the proper safety equipment, such as a helmet, when using such a toy.

In low- and middle-income countries, playground equipment is also often of substandard safety level and very often there are no protective surface materials such as plastic or rubber grounds. In a study of playgrounds in western Turkey, for example, 80.7% of playgrounds had unsafe surfacing and over half had inadequate equipment based on US Consumer Product and Safety Commission standards (Uskun, Kişiöglu, Altay, Çıkınlar & Kocakaya, 2008). It is important to note that new and safer equipment, particularly surface material, has led to a decrease in serious head injuries, even though the rate of arm fractures has not declined (Norton et al., 2004).

**Environmental risk factors**

The majority of childhood falls occur in the lower middle-income countries and factors that contribute significantly to these are inadequate treatment facilities, hazardous environment, overcrowding, childhood employment, lack of supervision, and parental problems.
One of the biggest problems is the inadequate trauma care for children in South Africa. While adults enjoy over 500 hospitals with trauma units, the present situation allows for only one dedicated trauma unit for children under the age of 13, located in Cape Town. This problem is not exclusive to South Africa; surveys conducted in rural Asian communities reveal a much higher incidence of falls than had been recorded in trauma centres in the region, showing that low-income areas around the world do not have adequate access to facilities (Peden et al., 2008).

Substandard housing also continues to be a predominant and ongoing problem in South Africa, in particular in the many poorly planned townships around the cities. Buildings are often of a poor quality, poorly maintained and often do not have adequate pavements and often completely lack safe areas for children to play. In the Cape Flats township of Nyanga in 1992, 182 children were injured from a fall, more than 50 of which were due to the inaccessibility of a safe playground (CAPFSA, 2010). After working with the Child Accident Prevention Foundation to build a new playground in 1995, however, the number of fall injuries in the area decreased to 103 in 1998 (CAPFSA, 2010). It is important to keep in mind that these playgrounds must also be safe in order to prevent falls from excessive heights or onto surfaces such as concrete that increase the likelihood of injury (Norton et al., 2004).

The lack of safe playing facilities and ample trauma facilities for children in South Africa can, in part, be attributed to the legacy of Apartheid, recent urbanisation patterns, and voter concerns. Historically, the city of Cape Town was populated by a mix of whites, coloureds and Asians, with a very small minority of black South Africans. An influx of blacks from the Eastern Cape in the 1970s led to the creation of townships that were far from the city and resources of Cape Town (Western, 2001). Despite the fact that South Africa now has universal suffrage, which theoretically enables the large impoverished population to influence governmental policies in their favour, studies suggest that the level of inequality has not changed dramatically since the end of Apartheid. While real wages have risen and racial inequality declined, the gap between the rich and poor has actually grown since the 1970s. Though more funding has been allocated to poorer areas since the 1990s (much of it for education and health care), it often went towards increasing teachers’ salaries without regard to quality education, or to building new clinics without a corresponding growth in staff. Indeed, improvements in infrastructure have not been the primary concern of voters in South Africa, but rather unemployment and crime (Nattrass & Seekings, 2001). Infrastructural problems such as the lack of safe playing areas and adequate health care facilities for all may not be as pressing or evident as unemployment or crime, but their absence can create unnecessary burdens for families when a child is injured by a fall.

Children from poor socio-economic backgrounds are often left unsupervised since the parents or caretakers are often absent for long hours from the home, resulting in children left alone for prolonged periods of time. The parents and caretakers of these areas tend to work in lower paid jobs, for longer hours with additionally longer travelling times. Children living in these areas are very often left to fend for themselves after school, until the parents or caretakers arrive in the early evening. Problems may be aggravated if elder children are left to care for and supervise their younger siblings. Children are naturally curious, but a lower level of supervision presents is in the context of particular risks. These include a lack of protective rails on bunk beds, unprotected staircases and easy access to roofs (Hijar-Medina, Tapia-Yáñez, López-López, Solórzano-Flores & Lozano-Ascencio, 1993). Additionally, some children may be subjected to child labour, which presents its own particular risks. Agricultural and
constructional settings are particularly dangerous, with the presence of ladders, trees, pits, drainage ditches, etc. (Peden et al., 2008).

The consumption of alcohol, albeit not necessarily by children, is also linked to injury. A study performed by the Medical Research Council of South Africa (MRC, 2006) indicated that in up to two-thirds of trauma units visited, alcohol played an important role in sustaining injuries. Although the likelihood that alcohol plays a direct role in childhood injuries and falls is small, the indirect role may actually be large. Alcohol abuse is a significant problem in South Africa and foetal alcohol syndrome will lead to neuro-developmentally immature children who are less able to protect themselves. South Africa, in particular, has among the highest rates in the world of foetal alcohol syndrome (MRC, 2006). In many cases, the parents suffering from foetal alcohol syndrome may not be able to provide the necessary and adequate supervision of their children. Finally, if parents or supervisors are intoxicated with alcoholic beverages, their level of supervision is bound to decline. There is a nearly 30% increase in falls observed at the RCCH during the summer holiday seasons from October to March.

**INTERVENTIONS**

Although there is a paucity of evidence-based research reports in this field, it can be stated with certainty that the creation of a safer society for children is a monumental task, requiring a committed and multi-disciplinary approach. It requires active participation of individuals, NGOs, schools, religious institutions, the media, and government. For reasons of clarity, potential interventions will be discussed under the following headings: (1) educational interventions and (2) environmental interventions.

**Educational interventions**

It is a well-known fact that educational approaches and programmes which are conducted in isolation are doomed to fail, since they often do not reach the parents and caretakers of the disproportionate burden of injury among the broader social groups. Educational campaigns are likely to be more beneficial when they are combined with other strategies, such as enforced legislative and environmental changes.

There are a number of effective international programmes that LMICs can learn from. In an evaluation of a WHO Safe Community in Sweden, the overall injury rate decreased by 25% and moderate injuries decreased by half. This comprehensive approach to injury prevention was more effective than the control community (Lindqvist, Timpka, Schelp & Risto, 2002).

Media also plays an important role in injury prevention. Television and movies, in particular, are strong forms of media that can influence the behaviour of children and “actively shape viewers’ perceptions of what is normal, common, and acceptable, even though what is portrayed is fiction” (Glik et al., 2005, p. 237). For instance, a study of American television programming showed that most of the violence in children’s television programming was in the context of humour or indifference, and only 26% of the injury-related events actually resulted in an injury (Glik et al., 2005). Children’s movies in the years 2003 to 2007 featured similarly unrealistic or unsafe behaviour (Tongren, Sites, Zwicker & Pelletier, 2010). Crucial recommendations to enhance educational interventions for the South African context are:

- Educational programs to teach children ways to play safely.
- Training nannies and crèche workers basic first aid to care for minor falls.
- Programmes that include education and support for parents who may be disabled, endure long work schedules, or are otherwise unable to properly supervise children.
- Education and lobbying to promote
legislation requiring children’s entertainment to demonstrate proper safety practices, or the consequences of unsafe behaviour.

**Environmental interventions**

Environmental interventions, in conjunction with education, are crucial to reducing the number of childhood injuries from falls. Children play in whatever environment they have available, and it is necessary to ensure they have a safe environment in which to play and explore.

The provision of safe playgrounds for children is one way to reduce the number of serious injuries. Major changes in the design and maintenance of playgrounds have substantially reduced the number of playground injuries in many high income countries (Faelker, Pickett & Brison, 2000). States that followed government guidelines in the US, for example, experienced a 22% decrease in playground injuries (Safe Kids USA, n.d.). However, one of the biggest challenges in the South African context is the provision of playgrounds in low-income areas, especially since the township areas are often located between extremely dangerous structures such as railways, canals and highways. Crucial components to create a safer environment for children are the involvement of government and city planners and the start of deconstructing the inhospitable and unsafe townships around many major cities. Legislation requiring the establishment of safe playground areas and pavements in the poorest areas would be enormously beneficial to decrease childhood injuries. Even the construction of one safe playground in the township of Nyanga led to a decrease of fall injuries by 43% (CAPFSA, 2010).

Other possible environmental interventions to prevent falls include placing bars on windows, and gates at the top and bottom of stairs. A study in Dallas, Texas, for example, found that the likelihood of falling from a balcony or window in an apartment was greater if the bars were more than 10 cm apart or if the window was unprotected and low-lying (Istre et al., 2003). Cost-effective programmes to reduce fatalities have been implemented and are very successful; a window safety programme in New York in the 1970s reduced mortalities from falls from high-rise apartment windows by as much as 50% in one neighbourhood (Spiegel & Lindaman, 1977).

City planners and local officials should keep the following in mind regarding children’s safety and injuries caused by falls:

- Development of adequate and safe playgrounds for children in all suburbs, including the so-called townships.
- The development of safe sport facilities for children.
- Supply of child-safe playground equipment to all children’s playgrounds.
- Introduction of impact-absorbing ground materials in all playgrounds for children.
- Height restrictions on play equipment for children of 1.5m.
- Child-friendly urban and suburban designs with adequate and safe transport facilities for children.
- Increased accessibility to crèches or after-school programmes to promote adequate daytime supervision.
- Expanding trauma centres to care for seriously injured children and encouraging the use thereof.
- Provision of safety products such as helmets for bicycles and gates for stairs, and to discourage the use of products that are too dangerous such as trampolines and baby walkers.
- Legislation requiring window guards on windows, upper-storey windows and limiting the presence of low-lying windows to limit falls from excessive heights.
There can be no doubt that falls are the most frequently suffered cause of childhood injuries in children. While this is a general and global problem, children of low- and middle-income countries, as well as areas, suffer disproportionately. The solution to this huge childhood problem and reduction of child injuries can only be achieved with insightful and active participation of all stakeholders, including children, parents, caretakers, crèche owners, school teachers, religious leaders, NGOs local, the media, regional and national governments and high-profile politicians.

PRIORITY RECOMMENDATIONS

- Planning and urban design should include childhood safety as a predominant factor.
- Local authorities should make it a priority to develop safe playgrounds for children and safe transport pathways for children.
- Playing grounds should be of adequate safety standards. These should include playing devices, safe flooring and limited heights for playing equipment on these grounds. Regular maintenance should also be considered.
- Trauma care for children should be improved and expanded nationally to ensure access for all.
- A more comprehensive approach to the problems of alcohol and drugs within communities. Alcohol plays a prominent role in the majority of trauma admissions.
- More local studies on the incidence of childhood fall injuries should be performed within the various communities to determine specific risk factors.
- Establishment of a child-safety directorate within the National Department of Health to implement safety recommendations and successful programmes at a local and national level.
- Provide counselling to parents and caregivers on the best ways to prevent injuries/fractures, as well as counselling to those permanently disabled.

Key messages

- Falls are very common among children and are the leading cause of admission to emergency trauma facilities in South Africa and internationally for children younger than 14 years. Falls cause 90% of the total number of head injuries treated in trauma units.
- A number of childhood toys as well as transport devices are of inadequate standards and unsafe for children; these include skateboards, heelies, and roller skates. Playground equipment is also often of substandard safety level and very often there are no protective surface materials such as plastic or rubber grounds.
- Major changes in the design and maintenance of playgrounds have substantially reduced the number of playground injuries in many high income countries.
- There is support for increasing accessibility to crèches or after-school programmes to promote adequate daytime supervision.
- The provision of safety products such as helmets for bicycles and gates for stairs, and discouraging the use of products such as trampolines and baby walkers are also recommended.

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65
Falls


MALTREATMENT PREVENTION AND THE ETHIC OF CARE

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ABSTRACT
Child maltreatment in the form of abuse and neglect is a common problem affecting the well-being and flourishing of children in South Africa. The problem continues despite the democratic laws, institutions and programmes couched in the human rights ideals following independence in 1994. There is a dearth of reliable data on the exact magnitude of child abuse and neglect in the country, but policy makers, practitioners and ordinary citizens concur that it is a ubiquitous problem affecting all population groups and social classes. Given the negative long-term consequences of child abuse, initiatives that prevent child maltreatment from occurring are being promoted to augment reactive responses that are usually available to selected populations. This Chapter argues that the ethic of care is worth considering as a way to improve the well-being of children and families. The ethic of care provides one of the missing ingredients in the current policy environment of South Africa – strengthening caring relationships between adults in general, and between parents and their children, in particular. Prevention programmes that focus on enhancing caregiver-child relationships are among those that have shown positive outcomes and are worth implementing in South Africa.

Keywords: ethic of care, child maltreatment, prevention, child neglect

INTRODUCTION
Child maltreatment is a global problem affecting the well-being and development of children. It not only has immediate effects on children, but also affects later adolescent and adult behaviour and health. In addition, the effects are not limited to the lifespan of those maltreated. The tragedy is compounded in that the impacts on one generation can scar subsequent generations and society as a whole. This Chapter examines the limitations of the approaches currently used to address child maltreatment in South Africa.

a. Firstly, the narrow focus of the current practice of child protection is discussed. These are predominantly based on investigation and legal decisions, leading to child-oriented interventions, including out-of-home placements to safeguard the child.

b. Secondly, we identify the far-reaching consequences of child abuse and neglect and argue that broad-based preventative approaches are critically important.

c. Thirdly, we examine the limitations of an exclusive,
rights-based approach in addressing child maltreatment in South Africa. We show that the rights perspective supported by legal and institutional reforms intended to protect children from harm following democratisation has not led to reductions in interpersonal violence against children.

d. Fourthly, we propose a framework for the response to the abuse and neglect of children in the home, prompted by ethics of care, through programmes that stimulate caring attitudes and practices.

This framework has the potential to enhance families’ and caregivers’ capacities to provide care for children under circumstances that challenge parenting. In the same way that political systems support the practice of justice, the state can promote the value and practice of care through suitable social welfare programmes that help to prevent child abuse and neglect.

The World Health Organization (WHO) regards the “physical and emotional mistreatment, sexual abuse, neglect and negligent treatment of children, as well as their commercial or other exploitation” as key features of child maltreatment (WHO/ISPCAN, 2006, p.7). Child maltreatment results in harm to the health, survival, development and dignity of a child (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002). Violation of children’s rights through failure to provide for them, exposure to violence, physical and sexual abuse in the community and home, and child injury and homicide are not uncommon childhood experiences in South Africa (Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009). Specialist service providers consider child neglect including abandonment, child physical abuse and sexual abuse, as the most frequent forms of child maltreatment in South Africa.

Explanations of child maltreatment vary from authoritarian interpersonal power relations between parents and children to structural depravations in the home context which are thought to influence parenting attitudes, ideas and practices. The latter includes, for example, parental emotional withdrawal under conditions of poverty and stress (McLoyd & Wilson, 1991) and maternal ambivalence as an aspect of the mother-child relationship (Hollway & Featherstone, 1997; Parker, 1997; Ribbens, 1994). Other attributes that increase children’s risk, are mothers’ beliefs regarding child abuse and neglect (Olds et al., 1997) which may translate into use of physical punishment.

Several potentially modifiable risk factors for child maltreatment have been identified. These include structural factors such as inequalities and poverty, inaccessible child care services, and personal attributes such as substance abuse and poor parenting skills. Risk factors for child death due to preventable injury and ingestions include teenage and low socio-economic status mothers, with little emotional and economic capacity to nurture their children (Kitzman et al., 1997). In a review of studies on the importance of caregiver-child interactions for child survival and healthy development, Richter (2004b) identified poor knowledge about child development, hence unreasonable behaviour expectations, emotional unavailability including inattentiveness, and non-responsiveness to the child’s activities as some of the caregiver attributes that diminish the quality of child care.

Ongoing research efforts by the WHO and the United Nations Children’s Fund (UNICEF) to understand the extent of child maltreatment in South Africa are driven by the recognition that child abuse and neglect are ubiquitous social and public health problems with long-term consequences. Though there is consensus that child maltreatment is a serious problem in South Africa, accurate assessment of the extent of child abuse and neglect is impeded by a lack of accurate and complete information, and this hampers evidence-based service planning, especially
at district and local levels (Dawes & Mushwana, 2007; Makoae et al., 2009b). Most preventative efforts are not well-resourced or adequately evidence-based, and monitoring of the quality and impact of interventions continues to be a missing part of the puzzle. Sadly, it is also the case that even when child protection systems capture information on child maltreatment comprehensively, interpreting and acting on knowledge gained remains a challenge. Dawes and Mushwana (2007) note that, amongst others, reports tend not to reflect such complexities as co-occurring forms of child maltreatment or child maltreatment that occurs over a long period of time.

The high prevalence of child abuse and neglect in South Africa is thought to be a consequence of persisting family and parenting weaknesses introduced by migration that occurred under colonial rule and, more recently, the effects of Apartheid. Societal structures and functions of the family for the majority of the population were negatively affected by these forces. The problems are also due to inadequate and ineffective public and private sector efforts which have historically focused on responding to reported child maltreatment by attempting to prevent its reoccurrence by removing children from the abusive environment, providing individual treatment to abused children, and prosecuting abusers – the latter with very little success.

LIMITATION OF EARLY INTERVENTIONS AND TERTIARY SERVICES FOR CHILD MALTREATMENT

Children and families affected by abuse and neglect merit support through services that ameliorate the effects of maltreatment, punish and rehabilitate offenders, and help to restore the ability of parents to continue their responsibilities. But, simultaneously, societies need to prevent child maltreatment and enhance conditions that support child survival, well-being and development. In South Africa, reactive interventions intended to prevent reoccurrence of negative parenting actions (known as statutory interventions), followed by secondary prevention or interventions targeting individuals and groups known to be at risk of maltreating children, currently receive the highest proportion of public resources intended to address child maltreatment, compared with primary prevention (Loffell, 2004; Makoae, Tamasane & Mdakane, 2009a). According to the Department of Social Development (DSD) (2007) this approach dominates because child protection involves the provision of specialised and intensive services to protect children and preserve families on the basis of need. This needs to be balanced with staffing, time, reporting and financial requirements.
of primary prevention programmes. These ideally include a variety of approaches to deliver services to vulnerable families with young children that show promise for positive outcomes. The policy and service bias towards tertiary services overlooks the evidence regarding the rationale for public investment in early parenting interventions, including the potential to produce economic benefits for society in the long-run (Olds et al., 1997).

Early intervention and tertiary services provide vulnerable families – children, parents and caregivers – with support that prevents harm to children, as well as the persistence and recurrence of circumstances that place children at risk of harm. According to MacMillan et al. (2009), prevention of recurrence of maltreatment and impairment are addressed through child protection services and referral to mental health care services. Paediatric health care for physical and sexual abuse is equally critical because of the far-reaching health consequences of these forms of child maltreatment. Early intervention services can be implemented by social welfare services with or without a children’s court order while tertiary services involving temporary or permanent removal of a child from the biological family is an intervention implemented exclusively through a court order.

The emphasis on family involvement in programmes as stipulated in the newly adopted Children’s Act (No 38 of 2005) marks a shift in the legal and policy framework from individualistic services focused on abused and neglected children to services that enhance the capacity of families and caregivers to protect children and address environmental factors that threaten the well-being and development of children. A recent assessment focused on the inefficiency of governments’ and donor organisations’ responses to individual children, including children affected by HIV and AIDS in southern Africa. As an alternative, family-focused prevention, care and treatment services delivered through modalities that help identify problems before the onset of crisis are recommended (Richter et al., 2009).

In the context of child maltreatment specifically, reactive approaches are criticised for their limited effect on protecting the larger population of children and families at risk of child maltreatment. In addition, therapeutic services have limited effects on chronically maltreated children. Mikton and Butchart (2009, p. 353) state, “Evidence strongly suggests that treating and later trying to remedy the effects of child maltreatment are both less effective and more costly than preventing it in the first place”. Especially when they are not supported adequately through the necessary human, financial and technical resources, social welfare services fail to realise the optimal effects of responsive interventions intended to avoid statutory removals (Dawes & Mushwana, 2007). In addition, re-traumatisation may also occur due to delays and failure in permanency plans (Loffell, 2007). For example, in terms of coverage, it is only families and children who are reported, investigated and whose reports are substantiated that receive specialised social welfare and therapeutic services, including counselling and medical care. Occasionally, parents are also referred for services such as substance abuse treatment and assisted to access state economic assistance (Makoae, Dawes, Loffell & Ward, 2008). The chronic shortage of social work services needed to support vulnerable families, directly impacts the placement of children in need of alternative care, including foster care. The shortage leads to an accumulation of cases awaiting suitable placements (Loffell, 2004, 2007).

Investigations that precede statutory intervention, statutory reporting and register maintenance are necessary but absorb disproportionate amounts of resources and time relative to their assessed effectiveness. The Convention on the Rights of the Child (CRC), which is the global policy to promote the
care of children, encourages government authorities and civil society to support families in difficult circumstances to prevent children from being neglected, abandoned, abused, harmed in other ways and removed or separated from their families (International Social Services, 2005). Many national laws are consonant with the CRC and the African Charter on the Rights and Welfare of the Child and oblige social workers who present children affected by abuse and neglect before the children’s courts to document the reasons for intervention in family life, family preservation strategies provided prior to referral to a children’s court, tasks to be undertaken with the family to ensure rehabilitation, expected outcomes of statutory care, and reintegration services to be used where removal of a child from parental care is recommended (Loffell, 2007). On the one hand, failure to adhere to good social work practice further delays finalisation of court orders thus hindering children’s access to services. Also to be considered is the requirement to investigate all cases of maltreatment reported to authorities before screening for court imply more time spent on preliminary work even though many may not end up in court for various reasons. For example, as illustrated in Table 1, in a study that reviewed children’s court inquiries to assess the risk factors that led to children entering statutory care in the Western Cape Province, it was found that the proportion of cases that appeared before a sample of children’s courts and were substantiated, ranged from approximately 14% to 88% of all cases of child maltreatment reported to authorities to investigate (Makoae et al., 2008).

The administration involved in the provision of care of children in alternative care also puts considerable strain on public services and resources. In terms of the Social Assistance Act (No. 13 of 2004), Foster Care Grants are one of the main forms of social assistance directed specifically at children and families. The South African Social Security Agency (SASSA) reported that approximately 500 000 children received Foster Care Grants (FCGs) in 2008 (DSD, 2008). The value of FCGs is almost three-fold higher than Child Support Grants (CSGs) provided for poor children in parental care. It is questionable whether the FCG is being used in ways that were intended by the Social Assistance Act, 2004 (Act 13 of 2004), because most recipients are not children in need of care to the extent that they are deemed wards of the state, but are usually children in extended family care. Nonetheless, children in foster care demand a large amount of document processing for what may be a temporary care arrangement with frequent review.

The limited effect of interventionist approaches on child maltreatment in South Africa is exacerbated by persisting inequalities in services and uneven
access to information regarding services. The spatial distribution of the services provided by the private organisations in the child care and protection sector tends to favour urban areas. Rural and poor families in informal settlement are less likely to have access to and knowledge about family services that are established in urban areas. Besides, attitudes towards statutory interventions may also constitute barriers to use of services. For example, the extent to which the services are acceptable across different cultural groups and how this influences their utilisation is less known. Considering that statutory child care services are essentially interventionist, their association with the oppressive past may alienate those sectors of the population that were either excluded or viewed the services as integral to the oppressive state machinery. There is also variation in the levels of knowledge about different forms of family support services among the South African population. For example, while public education about child support grants has enhanced their uptake over time, it is unclear what strategies are used to provide information to the public on child protection services. Such strategies have the potential to reduce child abuse and neglect by creating awareness about available support to families, as well as reduce stigma that may be associated with service utilisation.

In the context of widespread poverty and HIV/AIDS, community-based child care services have responded to address child vulnerability. Mathambo, Sokolic, Wilson, Wilson and Makusha (2009) have documented an informal bottom-up welfare system that has evolved to fill some of the gaps found in the formal child protection system through home visitation and facilitation of access to critical services. These approaches reduce the problem of some children being inadvertently excluded from services, despite changed policies under the democratic state. The foregoing discussion points to the limitation of early intervention and statutory services such as therapeutic interventions and social welfare services provided without adequate resources. Services introduced after the onset of problems in parent-child care relationships are limited in their ability to radically alter child outcomes. The identified sources of strain on services and systems suggest that preventive approaches focusing on strengthening families and caregivers’ capacity to care for children, should be prioritised in all sectors of government services with the mandate of child protection.

The next section examines the far-reaching consequences of child maltreatment as documented in the literature. The range of individual, social and economic repercussions of child maltreatment supports the argument for shifting the emphasis from treatment of consequences to prevention.

UNDERSTANDING THE EFFECTS OF CHILD MALTREATMENT AND THE RATIONALE FOR PRIMARY PREVENTION APPROACHES

International research compellingly documents the consequences of different forms of child maltreatment for individuals, families and the general society. Psychological effects have been observed for both male and female childhood survivors of abuse, including sexual abuse and chronic neglect. For example, Polusny and Follette (1995) reviewed studies on the conditions associated with child sexual abuse among survivors in the general population and clinical samples. The review reports comparatively higher levels of the following general psychological problems: depression; anxiety; self-harming tendencies such as suicide and “non-fatal, intentional, self-injurious behaviours” including physical harm; substance abuse and addiction; personality disorders; increased social relationship and marital problems; high risk sexual behaviour; teenage pregnancy, and re-victimisation through sexual assault and partner physical abuse in adulthood (Polusny & Follette, 1995). In an analysis that shows the complexity of child sexual abuse,
Richter and Higson-Smith (2004) indicate that the consequences of child sexual abuse include death, physical injury and emotional dependence on the abuser.

Correlation research initiated a decade ago suggests that child maltreatment is a serious social, economic and public health problem, with enduring consequences for all concerned. The Adverse Childhood Experiences (ACE) study in the United States describes the long-term relationship between childhood experiences, including exposure to childhood emotional, physical, and sexual abuse, and household dysfunction and significant medical and public health problems in adulthood (Felitti et al., 1998). These include chronic disease and frequent health care utilisation, adolescent pregnancy, risky sexual behaviour and early death.

This multi-disciplinary research across the fields of neuroscience, social epidemiology, and the behavioural sciences, has led to the development of a framework for understanding the long-term consequences of severe neglect and child abuse for adult health, including chronic disease, social maladjustment and reduced longevity. Evidence also shows that severe child maltreatment can impair a person’s social and occupational functioning, inhibit human capital formation, lead to chronic diseases, such as cardiovascular disease, and generate high-risk sexual and violent behaviour in adult survivors (Gilbert et al., 2009; Shonkoff, Boyce & McEwan, 2009). Ultimately, this damage at the individual and family levels hampers social and economic development (Polusny & Follette, 1995; Spatz Widom et al., 2008; WHO, 2009a).

Child neglect and abuse are related to serious lifelong consequences which impact negatively on economic development, because they trigger outcomes that undermine the development of healthy social relationships and human capital development. Neglect and abuse are associated with, amongst others, lower academic performance, costly public health problems linked to alcohol and drug abuse, mental illness, interpersonal violence and injury, sexual assault, smoking, sexually transmitted infections including the transmission of HIV and weak social capital in communities (WHO, 2009b). The concern to reduce the burden of unplanned teenage pregnancies, preventable chronic morbidity and premature death by addressing severe early life disadvantages through appropriate interventions, is a matter that requires public health approaches. The 2006 WHO report on the prevention of child maltreatment drew attention to the need for child maltreatment to receive policy commitment with the emphasis on evidence-based knowledge regarding the extent and impact of prevention efforts (Gilbert et al., 2009; WHO/ISPCAN, 2006).

Preventing child abuse and neglect should be seen consistent with promoting the quality of life of children, caregivers and parents and the well-being of families in the broadest sense. As Felitti et al. (1998) note, primary prevention of ACEs necessitates fundamental changes in society that enhance the quality of family and household environments to support stress reduction during childhood. It is critical for health promotion and disease prevention to include public investments in early childhood development and, most importantly, to recognise the potential role of child welfare services in promptly addressing child neglect and abuse (Shonkoff et al., 2009). Evidence suggests that low-income countries would benefit substantially from investing in early child development programmes and interventions that reduce stress and depressive symptoms among mothers in disadvantaged communities (Engle, Black & Behrman, 2007). Prevention of child neglect and abuse is essentially a component of the long-term human development and health promotion goals of a society. Nobel Laureate economist, James Heckman (2006a, 2006b), draws similarities between the brain and the economy, emphasising that early and
effective investment is more rewarding to society than trying to make corrections later. Therefore, it is impractical to conceive of child maltreatment prevention outside of broader policy efforts to empower women as the main bearers of child care responsibilities in the home, the strengthening of families, and the promotion of gender equality.

This approach has been amplified by growing evidence that there is a link between deprivations due to deficits in interpersonal relationships between young children and their primary caregivers, as well as material conditions (Richter, 2004b). These connections render primary prevention of child maltreatment a policy priority and imply that societies would benefit in the long run from social investments that reduce child abuse and neglect in the population from an early age. However, policy makers need to realise that different efforts to address child maltreatment will have different results. For example, public awareness campaigns can improve reporting while child protection services can reduce the recurrence of abuse and neglect. The review of evidence for the effectiveness of preventative interventions, suggests that of the seven main types of interventions used in high-income countries, only home visitation programmes, parent education programmes, abusive head trauma prevention programmes and multi-component programmes are promising for preventing actual child maltreatment (MacMillan et al., 2009; Mikton & Butchart, 2009). Home visiting services provided by professionals such as nurses and social workers to mothers and children during prenatal and infancy stages (Olds et al., 1997); and by trained paraprofessionals as in the Nurse-Family Partnership for the prevention of child physical abuse, and the Early Start for families in distress, show positive results in the health domains of mothers and children (MacMillan et al., 2009).

LIMITATIONS OF THE LEGAL AND INSTITUTIONAL REFORM TO PROTECT CHILDREN

Academic, advocacy and policy literature on violence directed at children, as well as approaches to address child abuse and neglect in South Africa are framed primarily within the rights perspective. Child abuse and neglect is conceptualised as violation of children’s human rights, as entrenched in The Constitution and other domestic and international legal frameworks that protect children, including The Convention on the Rights of the Child and The African Charter on the Rights and Welfare of the Child (Dawes & Mushwana, 2007; Loffell, 2007; Proudlock & Mahery, 2006; Richter & Dawes, 2008). The justice ethic in child protection has its own achievements, yet it does not deter many adults from intentionally harming children. Despite good laws, policies and institutions developed to meet the obligations of the State to reduce the vulnerability of children to various factors that hinder their survival and development, it seems these efforts alone have effected limited social change. There is a real possibility that violation of children may be on the increase.

It is a concern that the lack of positive attitudes and behaviour of some members of society towards children there is the omnipresent threat that prevailing situations of violence reproduce child maltreatment. The situation exemplifies the difference between what Amartya Sen (2009) identified as an “arrangement-focused” and a “realisation-focused” understanding of justice. The former is the view of justice which assumes that generalised principles of morality yield desirable actions, while the latter considers the actual behavioural aspects of subjects under presumably just institutions. The institutional arrangements, policy and legal frameworks that emerged to uphold democratic values in the post-1994 South Africa provide the necessary framework for promoting children’s access to formal services. But the
remnants of a patriarchal culture and repressive and authoritarian behaviours produced by this environment persist.

It may be argued that part of the reason for the persistent problem of child abuse and neglect lies in the inadequacy of the rights framework for child protection. The rights perspective falls short in situations where individuals in abusive relationships are vulnerable, powerless and dependent on the abuser or others to articulate and protect their rights. This is true for children. The main perpetrators of neglect tend to be mothers (Makoae et al., 2008), while male relatives and acquaintances are responsible for the majority of sexual offences against children in South Africa (Higson-Smith, Lamprecht & Jacklin, 2004; Seedat et al., 2009). Attributes such as compassion and a sense of responsibility towards others tend to yield more nurturing environments and social relationships that support human thriving than principle-based relationships. Society needs to promote care values to counterbalance the rights-based ideals, as the latter are individualistic and competitive.

Dawes and Mushwana (2007) identify the unintended consequences of a child protection system based on an under-resourced mandatory reporting system to include injustices that may be caused to children and families when investigation is uncalled for, unsubstantiated, incomplete or unresolved. The principal reason for the lack of change in the way children are affected by maltreatment and poor realisation of the rights of children to protection from abuse, is the lack of services that are adequately supported and resourced to fulfil the commendable legislative and policy reforms introduced after 1994 (Richter & Dawes, 2008). In a society with a long history of institutionalised disregard for human rights and depleted social cohesion, interpersonal harm, especially that which is directed towards powerless members of society such as children, was almost inevitable. Perhaps it is its magnitude and severity that perplex social actors such as children, parents and caregivers, policy makers and professionals, as well as the ambit of its effects.

The Children’s Act (No. 38 of 2005), as amended, specifies a variety of services to be provided through state resources with the participation of families in prevention and early intervention programmes. The content of such programmes, in terms of the Act, should include family preservation; enhancing parenting and caregiving competencies; promoting appropriate family interpersonal relationships; providing psychological support, rehabilitation and treatment services for children affected by neglect and abuse; and avoiding child removals into statutory care as far as possible (Chapter 8, S144 [1 (a)-(i)]). While the content of such programmes may not differ, the goals of prevention are distinct from those of early intervention programmes and the challenge that planners and practitioners need to keep in mind is the sequencing of the provision of services relative to the occurrence of maltreatment. The quality of life and the prospects of children who have and those who have not been affected by child maltreatment differ substantially and their service needs differ. MacMillan et al. (2009, p.6) argue that “an essential aspect of the response to maltreatment is a thorough assessment to establish whether children have symptoms or disorders that would benefit from intervention, and then to ensure they receive the best available interventions for the conditions identified”. This is important and includes the consideration that children should not be removed from parental care unnecessarily.

The conditions, under which some of South African children are born and grow up, do not support their flourishing and development and this is exacerbated by fragile caregiving relationships leading to abandonment and poor surveillance of children in communities. The ratification of international legal
instruments and formulation of domestic laws that have led to a range of institutions, programmes and services that contribute to child protection are commendable (Higson-Smith et al., 2004). However, critical as the rights culture and current services are in dealing with children affected by abuse and neglect, they are not sufficient to provide an environment that supports human thriving. This society needs an additional ethic that is more fundamental and holistic to guide human conduct, especially between those who are powerful and those who for various reasons may not articulate their needs. The care perspective provides an alternative way of improving care situations by taking the factors that affect the quality of care relationships seriously. Applying an ethic of care framework to policy and programmes responding to child maltreatment provides a different lens through which the well-being of children and families at risk may be secured. Care theorists (Noddings, 1984; Sevenhuijsen, 2003; Tronto, 1993) emphasise the fundamental characteristic of care as a practice, predisposition and process based on relationships. Addressing child maltreatment using a perspective different from the rights-based arguments is likely to yield responses with a different focus. The focus should be on the individual and contextual factors that weaken the capacity of parents to care for children as well as those that are protective.

THE ETHIC OF CARE FRAMEWORK

Carol Gilligan (1982) identified two forms of morality, namely: the ethic of justice and the ethic of care. The ethic of justice derives from the morality of rights and “its consideration of the individual rather than the relationship as primary” (Gilligan, 1982, p.19) and places emphasis on abstraction, impartiality and universal principles. On the contrary, the ethic of care is grounded in connections with others – attachment, sensitivity, relationships of responsibility, in which vulnerability and dependence are recognised (Kroeger-Mappes, 1994; Noddings, 1984, 2003; Sevenhuijsen, 2003; Tronto, 1993). Tronto (1993) defines caring as:

*a species activity that includes everything that we do to maintain, continue, and repair our ‘world’ so that we can live in it as well as possible.* That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex life-sustaining web (Tronto, 1993, p.103 – italics original).

Tronto (1993) further identifies four phases of caring, all of which are embedded in relationships, and argues that these phases have four related values:

- Firstly, there is the *caring about* dimension which is the emotional aspect involving a strong feeling for someone and the recognition that there is a need for care. “It involves noting the existence of a need and making an assessment that this need should be met” (Tronto, 1993, p.106). The related value is *attentiveness* to the need for care. It requires one to “suspend one’s goals, ambitions, plans of life, and concerns, in order to recognise and to be attentive to others” (ibid, p. 128).

- Secondly, the dimension of *caring for* involves translating the need for care into assumption of the *responsibility* for meeting the need. It entails the actual actions that lead to addressing the recognised gap. According to Tronto (1993, p.106) *taking care of someone* “involves notions of agency and responsibility in the caring process”. This means that the carer has responsibility, and not only the obligation to ensure that the care needs are met. The family is a typical context for producing a sense of responsibility among its members to meet the needs of others. In childrearing as in illness, the expectation is heightened, and neglect may arise where dependence is not acknowledged.
• The third phase is *taking care of or caregiving* and it refers to the actual daily caring activities and tasks that directly attend to needs. “It involves physical work, and...requires that caregivers come in contact with the objects of care” (Tronto, 1993, p.107). Competence is part of the moral quality in caregiving (Noddings, 1984; Tronto, 1993). Competence is required; otherwise the care provided becomes inadequate, thus raising a moral question on the part of those who take the responsibility to provide care (Sevenhuijsen, Bozalek, Gouws & Minnar-McDonald, 2003). Rudrappa (2004, p. 596) also describes this particular component of care as “a more intense form of involvement encompassing knowledge and skill”. Caregivers’ capabilities are essential inputs in the provision of care because in their absence care is not viable while unintended harm may occur.

• Last, is the *care-receiving* dimension which recognises that care happens within the context of a relationship between the caregiver and the care-recipient and assumes responsiveness to care on the part of the latter. The responsiveness of the care-recipient is crucial in sustaining caregiving. According to Sevenhuijsen *et al.* (2003) those involved in care constantly assess the response to care to determine whether or not to continue its provision and what needs are met. This aspect also recognises vulnerability and interdependence inherent in care situations while also suggesting that there is a need to maintain a balance between the caregivers’ and care-recipients’ needs.

The visibility of the construct of care (Heaton, 1999) in South Africa’s policy documents is primarily expressed as a discourse that differentiates the inhumane policy practices of Apartheid from democratic values of the new society. The attitude has invoked indigenous ideas such as *ubuntu* – the African concept of sharing and caring for one another (Ramose, 2002), as guidelines for policy and service delivery in the public sphere. The need to endorse a caring society has been expressed through various policy communication channels (speeches, documents) and is constantly linked with the ethos of *ubuntu*. For example, the White Paper for Social Welfare (DSD, 1996) expresses the concern in politics and policy-making about the need to promote caring as a feature of human practices across the different domains of life, particularly in families and communities. Sevenhuijsen *et al.* (2003) criticise the South African White Paper for Social Welfare framework on the grounds that it deals with the notion of care haphazardly and fails to differentiate the essence of care from the key principles of the rights perspective dominant in the policy discourse.

The care perspective provides an alternative way of improving care situations by taking the factors that affect the quality of care relationships seriously. Applying an ethic of care perspective to policy and programmes responding to child maltreatment provides a different lens through which the wellbeing of children and families at risk may be secured. It is an acknowledgement of the fact that developing institutions, laws and programmes that would respond to children affected by maltreatment fall short of changing the ideas and practices that hinder families and communities to support children to flourish while also ignoring the lack of capabilities among some adults (Sayer, 2009).

**WHY THE ETHIC OF CARE FOR CHILD MALTREATMENT PREVENTION IN SOUTH AFRICA?**

Care giving and receiving are basic aspects of human existence and are both innate and taught (WHO, 1997). But when a significant proportion of children grow up in environments that expose them to anti-social behaviours that threaten development and
Social cohesion, finding effective ways of breaking the cycle of the behaviour is imperative. The ethic of care can contribute uniquely to child protection in South Africa by promoting a culture and system of services that recognise children’s vulnerability to neglect and abuse and seek to intervene early. It supports practices that nurture children in caregiving relationships as well as at an institutional level. In a society that places respect for rights at the pinnacle of its value system, both adults’ and children’s right to care are bolstered – hence it is hard to separate the rights and care perspectives. However, it is argued that while for most individuals the care ethic develops spontaneously under normal circumstance, it is fragile and numerous factors can impede, undermine and corrupt it. In contemporary society, natural responses, common sense, religion and tradition are insufficient to ensure good child care. Confusion and uncertainty regarding best care practices, disturbances of traditional family forms and roles, rapid urbanisation and culture change, changes in nutrition, new diseases and health risks, the demanding and complex tasks expected of parents in assisting children with their formal education and the challenges posed by exposure to modern information technology and mass media are among a list of factors that make child care the challenge it is today. In the face of these challenges all parents require assistance in embracing and executing the ethic of care and in this poor parents are most in need of support.

Advocating for the care perspective in dealing with child maltreatment is intended to highlight how interventions that emphasise the value of care may contribute to enhanced caregiving. Promotion of parent/caregiver-child relationships that support the development and well-being of children is envisaged at two levels: first, between government and non-governmental institutions that deliver child protection services and vulnerable families; second, between parents or caregivers and children. The starting point will be acknowledging the material and non-material forms of deprivation in the environments where the majority of children affected by child maltreatment are raised and which make care difficult, if not impossible. Such unfavourable environments are indicated by several risk factors for abuse and neglect in the family and community contexts. In South Africa, familial and community risk factors for child abuse and neglect tend to be intertwined and associated with the structural and social factors that generally weaken family life and social cohesion. Poverty and high socio-economic inequalities; high prevalence of teenage pregnancy, single mothers who raise children in poverty without the support of the extended family and their children’s fathers (Richer, 2004); substance abuse; orphan-hood; domestic violence, economic migration of parents who work away from home and leave children without supervision or do not have access to child care facilities, are key risk factors (Madu & Peltzer, 2000; Makoae et al., 2009b; Seedat et al., 2009). Interventions that take into account the socio-economic characteristics of families, parents and primary caregivers that commonly predispose children to high risk of maltreatment are necessary.

PROMISING PROGRAMMES FOR CHILD MALTREATMENT PREVENTION AND THE ETHIC OF CARE

Currently, the major concern is the widespread weaknesses in the provision of specialised welfare and criminal justice services for children affected by maltreatment. Higson-Smith et al. (2004) note that although there were some examples of good practice such as the Teddy Bear clinic, the literature generally suggests a lack of services for children affected by sexual abuse. Another major problem is a lack of population-based programmes and services that address family circumstances to prevent neglect and other forms of abuse (Makoae et al., 2009a). Fortunately, some interventions, if assessed
properly before being implemented widely, promise to modify some of the risk factors (MacMillan, 1998; MacMillan et al., 2009; Mikton & Butchart, 2009).

Emphasis on primary prevention addressing child maltreatment through family-centred services before difficulties occur is associated with positive health and development outcomes for children and parents, particularly mothers who parent under difficult circumstances. Efforts of this nature attempt to address different forms of maltreatment in two major ways: by reducing risk factors associated with child maltreatment in the child’s environment; and by decreasing the actual occurrence of child maltreatment involving mother-perpetrators usually reported through information systems such as injury hospitalisation, admissions in emergency departments and referral to welfare services (Kitzman et al., 1997; Olds et al., 1997; Mikton & Butchart, 2009). Eventually, the well-being and development of vulnerable children is enhanced more when attention is given to dealing with the risk factors than when interventions are directed towards ameliorating the consequences of abuse and neglect.

As the world ended a decade that showed unprecedented commitment to addressing interpersonal violence including child maltreatment, efforts to understand child maltreatment in resource-poor settings and strategies that reduce the occurrence of child abuse and neglect are prioritised as part of public health approaches (Mikton & Butchart, 2009). They include programmes that enhance parent-child relationships and parenting skills and promote secure, stable and nurturing relationships in the early years of a child’s life (WHO, 2009b, p.4). The parenting interventions that have been reported as showing the best evidence of efficacy in reducing child maltreatment include the Positive Parenting Programme or “Triple P” (Prinz, Sanders, Shapiro, Whitaker & Lutzkler, 2009) even though evidence comes from high income countries.

The ethic of care perspective provides an opportunity to reconsider the relevance of similar interventions that enhance relationships between children and their parents or primary caregivers as a major approach to child maltreatment prevention in South Africa. Rather than emphasising principles, rights and obligations as standards against which provision of child protection services may be determined, the care framework underscores relationships, responsibility and interdependence as central to human actions. For example, unlike obligations that emerge from political promises, responsibility is a relational concept “that is embedded in a set of implicit cultural practices, rather than in a set of formal rules or series of promises” (Tronto, 1993, pp.131-132). This implies that caring is a learned behaviour. In situations where historical processes have impacted negatively on the capacity of the members of society to socialize younger generations into caring people as is the case in some previously disenfranchised communities in South Africa, carefully planned actions to promote the necessary competences are required.

Lack of parenting skills and stressful situations of mothers who raise children without co-parenting support by fathers are interwoven with poverty and compromise children’s caring environments. Caregiving implies intense involvement of the caregiver and includes competences – skills and knowledge – about the needs of the child and realistic behavioural expectations. Addressing gaps in parenting skills along with poverty alleviation programmes at the local and national levels has the potential to improve the well-being of children and their caregivers. Investing in parenting skills interventions will reduce child maltreatment and the consequences of adverse childhood experiences among future adults.

The identified parent-child programmes emphasise building relationships between the caregiver and
the child. The approach resonates with the values of the care ethic. Attentiveness, responsibility, responsiveness, and competences and skills contribute unique attributes in caregiving situations. The challenge could be that caring requires carers to postpone their goals, ambitions, plans of life, and concerns, in order to identify and to address others’ needs. For example, although it is recognised that neglect including abandonment could be a negative response of mothers who do not cope with parenting, it may also indicate poor preparedness to assume the motherhood role. Intergenerational abuse and neglect also deprives society of future caring parents. Many boys grow up without interacting with their fathers and they may not have stable relationships with the father-figures as their mothers’ partners are also likely to leave them during their childhood. Parenting skills can facilitate mothers’ ability to meet the daily emotional and physical needs of a child. Although mothers mostly engage in concrete care activities, there is evidence that children in South Africa would benefit significantly from their fathers’ emotional, physical and economic support (Richter, 2004a).

There is a need for programmes that address the needs of young mothers and fathers by way of preparing them for parenting and provision, with such services a shared responsibility of various government departments and their partner non-governmental organisations. The primary entry point to the provision of such services would be the Department of Health through antenatal services as it is possible to detect vulnerability and future risks for child abuse at this early stage of parenting. The DSD needs to coordinate sustained programmes at population level in addition to the currently run targeted services. Social contexts with unfavourable factors, including risk factors found in families and communities can be improved through planned interventions to support the survival and development of children. Adequately supported services that address the known risk factors in the population for abuse and neglect are likely to reduce child maltreatment by improving protective factors. It is equally important that the rights-based approach, currently dominant in the interventions directed to increasing children’s awareness of abuse and neglect is complemented with the ethic of care values well expressed through ubuntu. These approaches will improve the social skills of children as care-recipients too by teaching them about their responsibilities and responsiveness to care.

It is clear that the care framework is more relevant to the primary prevention of child maltreatment and likely to yield better outcomes at this level than when the framework is used in secondary and tertiary care approaches. This approach requires that all state departments, especially those outside the criminal justice framework, Health, Education and Local Government re-energise their collaboration with the DSD and civil society. Implementation of programmes that reflect the appreciation of mothers and other caregivers as vulnerable to abusing children due to lack of support in their environments are necessary for reducing maternal depression and enhancing childhood experiences. It is envisaged that such primary interventions will take different forms depending on the magnitude and types of child maltreatment prevalent in different areas, the risk factors and available state resources. However, as evidence shows, it is important that services are introduced to parents early in their parenting role, provided through multi-sectoral approaches and continued to complement early childhood services. Such services include child care, parental education, information and support but should equally address the primary causes such housing, poverty, alcoholism and unemployment (Eckenrode, 2004).

Addressing the needs of caregivers and supporting them through well-resourced, coordinated and monitored interventions to strengthen their ethic
of care and thus encourage and facilitate the actions that flow from this are worthwhile. In short, strategies that promote the ethic of care among the general population through families should be considered for child maltreatment prevention. Finally, research that evaluates such programmes for their effectiveness in reducing the incidence of child abuse and neglect or improving caregiving relationships will assist towards generating context-specific knowledge and scaling up those efforts that are found to be effective. There is a need for ethnographic and participatory research that will illuminate the challenges of parenting in resource poor contexts. Investigation of the extent to which children spend time in child-oriented places and their access to safe facilities that give parents respite, is needed.

Considering the magnitude of child abuse and neglect in societies, failure to include its reduction as one of the current Millennium Development Goals (MDGs) could be seen as a serious omission on the part of the international community. This is a concern considering the existing evidence from the high income countries on the enduring consequences of the different forms of childhood maltreatment for development and the realisation that it can be prevented through public investment programmes. There is a need for research that will document the health burden and human development implications of child maltreatment as well as carefully designed studies that evaluate the effectiveness of child maltreatment prevention efforts in South Africa.

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ABSTRACT
Child sexual abuse is a global phenomenon that occurs across cultures and socio-economic groupings with profound long-term physical and mental health consequences. Little is known about its prevalence and its treatment and prevention is under-researched. Globally, estimates show that between 7-37% of females and 5-10% of male children have experienced sexual abuse. In South Africa, one in six of all reported chronic sexual abuse cases is a girl under the age of 12 years. The social context of child sexual abuse in South Africa hinges on inequality and patriarchal constructions of masculinities which reinforces male dominance over women and girls, thereby increasing their vulnerability. Unequal power relations promote notions of male sexual entitlement and often lead to abuse without fear of its consequences. Parenting practices, harsh discipline, as well the unwavering respect for elders all provide the space for such acts to occur without resistance. Although sexual violence is predominantly perpetrated by men against women and girls, sexual abuse of young boys is a growing concern internationally. Very little is known about the scale and nature of sexual abuse of boys, however, emerging research in South Africa estimate that one in 10 men in adulthood, report having been sexually abused by other men. The consequences of sexual abuse of boys and girls can be severe, and may include Post-Traumatic Stress Disorder (PTSD) symptoms, depression, suicidal notions and attempts and inappropriate sexualised behaviour. The lack of an integrated service at health facilities and insensitive caregiver responses, as well as stigma of child sexual abuse, hampers access to effective treatment. Although South Africa has enabling legislation, policy frameworks and guidelines, these address sexual abuse mostly from a medico-legal perspective and do not address therapeutic responses to provide for the psycho-social or emotional needs of the child and his/her family. Limited resources and limited or lack of skills at health facilities in South Africa impact on the ability to deliver effective treatment. South Africa urgently requires a government-backed coherent, multi-sectoral response based on effective models of care in low economic settings to achieve effective long-term recovery for survivors.

Keywords: child sexual abuse, mental health consequences, multi-sectoral responses

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INTRODUCTION
Child sexual assault (CSA) is a pervasive problem that has affected the health, social and psychological wellbeing of children globally (Pinheiro, 2006). Yet, little is known about the prevalence of violence against children, and figures vary widely depending on the definitions used and how information is collected (Finkelhor, Turner, Ormrod, Hamby & Kracke, 2009; World Health Organization [WHO], 2006). Nevertheless, it is estimated that between 7-36% of female and 5-10% of male children have experienced sexual violence worldwide (Callender & Dartnall, 2010; Finkelhor, 1994; Jewkes, Penn-Kekana & Rose-Junius, 2005). Similarly, establishing the true extent of the CSA in South Africa is difficult, because police statistics is our main source of data; however, the under-reporting of rape suggests that prevalence estimates are grossly underestimated (Jewkes & Abrahams, 2002; Jewkes et al., 2005). Given the extent of the problem and its public health impact, CSA is thought to impact on the lives of large numbers of children in Africa (Jewkes et al., 2005; WHO, 2010).

Defining child sexual assault
Most definitions of child sexual abuse are limited and do not aptly define what constitutes sexual activity or sexual practise. In order to adequately define sexual assault, it is useful to explore definitions of sexual violence against adult women. The World Report on Violence and Health (WHO, 2002) has a definition of sexual violence against women which can be adapted to include children. The WHO report defines sexual violence as:

“Any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise direct against women’s sexuality, using coercion (i.e. psychological intimidation, physical force or threats of harm), by a person, regardless of relationship to the victim, in any setting, including, but not limited to, home and work”. (WHO, 2002, p.149)

In addition, the WHO Consultation on Child Abuse Prevention (1999, p.15) has defined child abuse as:

“Child abuse or maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child’s health, survival, development or dignity in the context of a relationship of responsibility, trust or power”.

A wide range of acts therefore encompass child sexual assault as the WHO (2002) report outlines:

- Rape and attempted rape, i.e. physically forced or coerced penetration of the vagina or anus with a penis or other body part or object.
- Coerced sexual activity through a spectrum of degrees of force.
- Sexual harassment, including sexual humiliation, unwanted sexual contact.
- Prostitution of children.
- Virginity testing.
- Female genital mutilation.
- Participation in pornographic performances or production of materials or exposure to pornography.

Violence and injuries are the second leading cause of death in South Africa, with social factors underpinning the perpetuation of violence (Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009). Contributing social drivers of these high levels of violence include factors such as: poverty, patriarchal notions of masculinity, weak parenting and toxic childhoods, alcohol abuse and weakness in the law enforcement system, all resulting in CSA being a persistent problem (Seedat et al., 2009). In South Africa’s Gauteng Province, statistics show that one in six of all rape cases reported to the police during 2003 are those of girls below the age of 12 years who have been chronically or repeatedly abused.
(see Box) (Vetten et al., 2008). Similarly, in the Eastern Cape, 39.1% of women and 16.7% of men report experiencing sexual abuse before the age of 18 (Jewkes, Dunkle, Nduna, Jama & Puren, 2010).

Children are most at risk of being assaulted by a person known to them (Makoae et al., 2009; Townsend & Dawes, 2004). School settings in South Africa, as in many African countries, serve as a particular context in which sexual and physical violence are perpetrated against girls and boys (Morrell, 2001; Naker, 2005). Although policies are in place to protect children against exploitation and punishment, they lack adequate implementation (Morrell, 2001; Naker, 2005). Furthermore, very little is known about sexual violence against boys and young men. This gap in knowledge needs to be addressed in order to effectively respond to the needs of both boys and girls.

Child sexual abuse has a profound impact on the physical and mental health of its victims, with both immediate, as well as longer-term consequences and is of major concern (WHO, 2002). Health outcomes may include HIV infection, STIs, unwanted pregnancy, unsafe abortion and a range of adverse reproductive health consequences (Clark, Bruce & Dude, 2006; Mugawe & Powell, 2006; Neelofur-Khan, 2007). In South Africa, a study in the Eastern Cape has shown that neither boys nor girls who have experienced neglect and abuse are resilient against these forms of adversity. Longitudinal studies have shown that women who had experienced emotional, sexual or physical abuse in childhood are at increased risk of acquiring HIV, and the impact on mental health of children can be severe and pervasive (Jewkes et al., 2010). Depression, suicidal thoughts and/or attempts, as well as alcohol and drug abuse have also been associated with emotional, physical and sexual abuse, both in women and men and have been widely documented (George & Norris, 2010; Jewkes et al., 2010; Schraufnagel, Davis, Shin, Hong & Hazen, 2010). In addition, research has shown that child abuse, as well as witnessing the abuse of a mother, carries a significant risk for developing psychopathology in childhood, adolescence and adulthood, including anti-social and violent behaviour, of which rape perpetration may be an outcome (Abrahams & Jewkes, 2005; Caspi et al., 2002; Jewkes et al., 2006b; Knight & Sims-Knight, 2003; Malamuth, 2003; Perry, 2001; Rutter & Taylor, 2002). The effects of abuse during early childhood have also shown to negatively affect the development of the brain, with consequent cognitive, psychological and social impairment (Navalta, Polcari, Webster, Boghossian & Teicher, 2006; Perry, 2001).

Research on treatment and preventative efforts remains largely underexplored and this is particularly true for the African region (WHO, 2010). A multi-country study in sub-Saharan Africa, by the Population Council developed, implemented and evaluated a comprehensive, multi-sectoral model to

### Sexual Abuse reported in Gauteng Province in 2003

Sexual abuse reported in Gauteng Province in 2003 showed that girls between 0-11 years:
- Were twice as likely to be raped by friends/acquaintances and neighbours than were adult women.
- Were more likely to be raped in their own homes than either adolescent girls or adult women.
- Weapons were rarely used in violence against young girls. Coercion was mostly based on the authority or power of the perpetrator.
- Genital injuries were recorded in two out of three girls (65.3%) and teenagers’ (66.2%) cases.
- Young girls were the group mostly told to keep quiet about the event. Abuse was mainly recognised through behavioural changes or psychological symptoms.
- Fifty five percent of young girls’ cases led to an arrest, but only 22.1% went to trial and 10.1% resulted in a conviction.

Source: Vetten et al. (2008).
Table 1. Rape and indecent assault committed against children 2005-2008

<table>
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<th>National Totals (adults and children)</th>
<th>Total Number of Children</th>
<th>Percentage Total for Children</th>
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<td>Rape</td>
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<td>54 926</td>
<td>52 617</td>
<td>36 190*</td>
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<tr>
<td>Indecent assault</td>
<td>9 805</td>
<td>9 367</td>
<td>6 763*</td>
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* Statistics relate to April–December for years 2006 and 2007
(Table adapted from RAPCAN Factsheet: Crimes Against Children, 2008)

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strengthen the evidence base on sexual and gender-based violence (SGBV) programming (Keesbury & Askew, 2010). Although this project increased the evidence base on programmes, further investigation is needed to improve comprehensive and effective responses to SGBV and CSA across the African continent (Keesbury & Askew, 2010; Lalor, 2004). This Chapter will focus on CSA in South Africa through a discussion of current knowledge, with the aim of identifying strategies to prevent and support girls and boys exposed to such forms of violence in their childhoods. We will:

a. Explore the social context which provides the opportunity for such acts to occur.
b. Discuss the mental health outcomes of CSA.
c. Explore policy and programmatic implications.
d. Present recommendations based on the evidence discussed in the Chapter.

THE SOCIAL CONTEXT OF CHILD SEXUAL ABUSE

CSA is a universal phenomenon that occurs across cultures and socio-economic groupings (Lalor, 2004). Understanding the social context which increases children’s vulnerability and that provides the environment for such acts to occur is of importance if we hope to reduce its occurrence. Research on CSA has predominantly stemmed from high income settings with limited work from low to middle income countries, like South Africa (WHO, 2010). Whilst the research base is scant, the Report on Health and Violence in Africa suggests that the social context creates conditions for CSA to be perpetuated, and increases the children’s vulnerability to be victims of CSA (WHO, 2010). Societal and cultural norms related to the social position of children, child rearing practices, as well as the breakdown of immediate and extended family systems, orphaned children and child-headed households all contribute to children’s vulnerability to CSA (WHO, 2010). Importantly, findings from ethnographic research conducted in South Africa and Namibia argue that a missing aspect of the discourse on CSA is the gendered nature of the act (Jewkes et al., 2005).

CSA affects both girls and boys, although girls are particularly vulnerable due to their gendered position in South African society (Jewkes et al., 2005), but very little is known about the sexual abuse of boys (see the Box on the next page). Dominant patriarchal constructions of masculinities in South Africa legitimate male control over women and children and promote notions of male sexual entitlement (Seedat et al., 2009; Townsend & Dawes 2004). In some instances, sexual abuse is used as a means to punish a mother or the girl child, with rape used as a display of control (Jewkes et al., 2005). Children are socialised to respect and to be obedient to their elders, with harsh methods of discipline still used to enforce parental control (Guma & Henda, 2004). This unquestionable authority of adults, allows for sexual violence to occur without much resistance from children (Townsend & Dawes, 2004). Teachers, in their position of authority, also hold significant
power over school children, therefore, sexual abuse by teachers have been found to be a significant problem in South African schools (Abrahams, Jewkes, Laubscher & Hoffman, 2006; Brookes & Higson-Smith, 2004; Human Rights Watch, 2001). These unequal power relations, thus, provide men with the space to sexually abuse children.

Perpetrators are mainly male adults and youth who are known to the child, in particular relatives and acquaintances (Makoae et al., 2009). Limited research has been conducted with perpetrators in South Africa. Such studies suggest that perpetrators are more likely to have a history of childhood sexual or physical abuse, as well as witnessing the violence towards their mothers (Townsend & Dawes, 2004). An international review and meta-analysis of risk factors for perpetration of CSA found that a history of sexual abuse, harsh discipline as a child, and difficulty with intimate relationships, antisocial behaviour and loneliness were found to be positively associated (Whitaker et al., 2008). In addition, the only major difference between perpetrators of CSA and adult sexual assault were found to be higher levels of externalising behaviours (Whitaker et al., 2008). Nevertheless, large numbers of abusers are not apprehended due to silence from children and communities continuing the cycle of CSA (Townsend & Dawes, 2004).

The responsiveness of the social welfare sector, regarding the protection of vulnerable children, and the criminal justice system in punishing perpetrators are important features of societal responses to CSA (Jewkes et al., 2005; Richter & Dawes, 2008). In a study on the attrition of rape cases in Gauteng, it was found that 45.5% of cases of young girls were dropped by the prosecution (Vetten et al., 2008). This study also points to the police’s failure to protect children from further victimisation and intimidation. Furthermore, it is argued that the social services sector lacks the capacity to respond adequately to protect children (Loffel, Allsopp & Atmore, 2008). The need for services far outweighs the capacity

Sexual abuse and coercion of boys

Sexual abuse of boys is not a new phenomenon. Yet, globally very little is known about the nature and extent of sexual violence against boys (Barker & Ricardo, 2006; Finkelhor et al., 2009). In South Africa sexual assault of boys has mainly been investigated in prison settings (Achmat, 1993; Gear, 2005; Steinberg, 2006). The paucity of literature on sexual abuse of boys in the general population has led to an assumption that it rarely occurs (Lalor, 2004). Hence, it has mainly been conceptualised as forcible sodomy and approached from a moral perspective rather than a public health discourse. While scant, South African research has shown that sexual abuse of boys by men has serious health consequences, such as an increased risk of contracting HIV and mental health problems, including alcohol abuse (Jewkes et al., 2006, Jewkes, Sikweyiya, Morrell, & Dunkle, 2009, Jewkes et al., 2010).

South African studies have mainly aimed to determine the magnitude of the problem. A survey with students in the Northern Province estimate that 8.8% of males experienced sexual abuse (Madu, 2001). Similarly a general population survey with men in KwaZulu-Natal and Eastern Cape estimate that nearly 10% of men have been forced into sex (Jewkes et al., 2009). Significantly, this study established that CSA was more common for men who reportedly rape (Jewkes et al., 2009). One of the few qualitative studies, conducted in the rural Eastern Cape broadened our understanding of the sexual abuse of young boys within a rural context (Sikweyiya & Jewkes, 2009). The lack of adult supervision due to duties, such as herding place boys in remote settings, increasing the risk for young boys’ to be physically bullied and forced into sex (Sikweyiya & Jewkes, 2009). Importantly this study highlighted the context of sexual coercion by women, is markedly different. Such acts often occurs in the safety of the boy’s home and female perpetrators were commonly older lodgers, domestic helpers and family friends who subjected boys to unwanted touching or exposed themselves, culminating in persuasion to have sex (Sikweyiya & Jewkes, 2009). The majority of such acts of abuse by men and women were not disclosed to families or friends or reported to the police (Sikweyiya & Jewkes, 2009). Given the high rates of non-disclosure it is anticipated that rates of sexual assault of boys is likely to be much higher than estimated.
of the social services sector to respond adequately, with only 5063 social workers employed to deliver services during 2005 (Loffel et al., 2008).

MENTAL HEALTH CONSEQUENCES
The mental health effects of CSA are profound, as the perpetrator is most likely someone known to the child and the abuse manifests in a relationship of trust and affection. It is well documented that CSA is associated with an increased risk for long-term psychological sequelae which can continue and impact on adult functioning (Hyman, Gold & Cott 2003; Maniglio, 2009). Evidence has shown that child victims are at increased risk of depression, anxiety, dissociation and PTSD (Maniglio, 2009). CSA is also associated with an increase in behavioural problems, sexual risk behaviour as well as re-victimisation of the child (Maniglio, 2009). A range of psychological and social factors contribute to the development of psychopathology, particularly family dysfunction is associated with negative psychological outcomes (Briere & Elliot, 1993). While other factors such as gender, age when abused, type and severity of abuse, cognitive abilities, and relationship to the perpetrator also influence the child’s immediate and long-term mental health response to victimisation (Maniglio, 2009). In a longitudinal follow-up study with children to explore their psycho-social needs post-rape at two sexual assault centres in the Western Cape, it was found that just under half of the children (43.3%) still presented with full symptom PTSD 4-6 months after first presentation at a sexual assault centre (Mathews, 2009). In addition, this study found that most children did not disclose immediately, with the majority fearing the response of parents and caregiver and expecting to be blamed (Mathews, 2009).

The impact of CSA can be understood in terms of who the perpetrator is, the duration of the abuse and the age of the child at onset and responses to disclosure (Killian & Brakarsh, 2004). For some children this trauma is internalised and they present with severe psychosomatic responses, like headaches, stomach aches, and loss of appetite before disclosure (Maniglio, 2009; Polusny & Follette 1995). Factors such as parent-child relationship and family functioning also play an important role in how a child adjusts post-rape, as this directly affects the support the child receives post-disclosure (Briere & Elliot 1993; Hunter, 2006). These factors have been shown to be particularly pronounced during the adolescent phase, with caregivers more likely to blame the child and thus influence recovery (Bergen, Martin, Richardson, Allison & Roeger, 2004).

Psychological support to deal with this trauma effectively is extremely important particularly to assist the child and the family deal with their initial reaction to the assault (Foa & Rothbaum, 1998; Resnick et al., 2007). It is critical to establish the safety of the child from the outset (Callender & Dartnall, 2010). In the high income world, psychological debriefing and cognitive behaviour therapy is primarily used to reduce the effect of trauma, in the aftermath of an assault (Litz, Gray, Bryant & Adler, 2002). The child’s response in the first four weeks post-assault is considered a good indicator of long-term mental health prognosis (Mcnally, Bryant & Ehlers, 2003; Resnick, Acierno, Holmes, Kilpatrick...
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& Jager, 1999). The Western Cape CSA study found that the majority of children do not receive post-rape counselling or other forms of psychotherapy; although some were referred for psychological support with 43% of children still meeting the criteria for full symptom PTSD (Mathews, 2009). Logistical barriers and the lack of an integrated service at health facilities is a challenge many children and their families face to access counselling independently (Mathews, 2009). In addition, the response of caregivers to the rape also impacts on the child’s recovery. Rape of children is extremely traumatic for parents, and is compounded by the parent’s experiences of trauma, which is common in the South African setting (Seedat, Nyamai, Njenga, Vythilingum & Stein, 2004). This has a major impact on parents’ emotional availability and ability to assist in the child’s recovery. In high income countries it has been found that children’s emotional and behavioural adjustment following CSA is associated with parental reaction and the emotional support they receive from parents (Elliot & Carnes, 2001). The inclusion of both the child and the caregiver in counselling is an important strategy to enhance mental health adjustment. Understanding what constitutes an effective mental health response to CSA in low-resourced settings are just emerging (Keesbury & Askew, 2010). Internationally, very few interventions have been rigorously evaluated to assess effectiveness. In low resourced settings

### Commercial sexual exploitation of children

In 1996, the South African Government pledged commitment to the Stockholm Agenda for Action to work towards the reduction and elimination of commercial sexual exploitation of children which includes prostitution, trafficking and child pornography (Ecpat International, 2007). In addition South Africa ratified the Palermo Protocol to Prevent, Suppress and Punish Trafficking in persons especially Women and Children which serves to supplement the United Nations Convention against Transnational Organised Crime (United Nations, 2004; Human Sciences Research Council [HSRC], 2010). Despite these commitments current legislation aimed at combating trafficking is fragmented and is addressed in the Sexual Offences Amendment Act, while children are specially protected by the Children’s Act (HSRC, 2010). To meet their international obligations the South African government has introduced the Combating of Trafficking in Persons Bill which is currently under discussion.

Reliable data on crimes against children such as sex tourism, child pornography and related cyber crimes in South Africa is limited and available data and anecdotal evidence suggests that such crimes are steadily increasing (Ecpat International, 2007; HSRC, 2010). South Africa has been found to be a main destination for southern Africa and victims are often recruited by coercion, force and trickery (Kreston, 2007). Adequate support of trafficked women and children is an area which needs serious attention and although South Africa was removed from the 2009 US Department of State Watch List, more effort is needed to adequately address this problem. Limitations to do so is compounded by a lack of national research data and the recent HSRC Tsireledzani report (2010) shows that there is currently progress from the non-governmental sector and certain government departments to develop and identify legislative measures and policy responses to counter trafficking in South Africa. These responses were possibly to bring South Africa in line with their obligation of developing a national action plan as the minimum standard of the Palermo Protocol. A Trafficking in Persons Intersectoral Task Team which includes civil society, non-governmental agencies, government departments, law enforcement and justice departments as well as international organisations was established. The purpose of the Task Team is to develop a National Action plan thus facilitating an intersectoral response to this end. From the efforts seen in the different sectors it is clear that South Africa is starting to make great strides in the prevention of trafficking for sexual exploitation. It is important that these efforts include systematic and standardised research methodologies in order to succeed in the development of appropriate measures to protect South Africa’s children.
it has been recommended that psychological interventions should target those with prolonged symptomatology to prevent the development of chronic symptomatology (Callender & Dartnall, 2010). Cognitive behaviour therapy (CBT) with children and their parents have empirically been shown as effective in treating the trauma associated with CSA (Kaminer, Seedat & Stein, 2005). Given the under-resourcing and under-development of mental health services in South Africa, further research is needed to determine how best to provide psychological support and treatment effectively and sustainably for survivors in public health services.

PROGRAMMING AND POLICY INITIATIVES IN SOUTH AFRICA

South Africa has recently undergone a legislative reform process aimed to provide children with increased protection and to bring South Africa’s child policy framework in line with our constitutional and international obligations. These key pieces of legislation, the Sexual Offences Act No 32 of 2007, the Children’s Act No 38 of 2005 and the Children’s Amendment Act No 41 of 2007 have all been introduced to strengthen the South African child protection system. The Sexual Offences Act no 32 of 2007 broadens the definition of rape, thus recognising the rape of boys (anal sex) as well as acknowledging a wide range of non-penetrative acts as sexual assault. It also makes provision for specialised courts, Thuthuzela Care Centres and national policy guidelines for victims of sexual offences. The policy framework introduces the concept of one-stop integrated services, but fails to introduce specialised services for child survivors of sexual assault. It, however, addresses CSA from a medico-legal perspective and lacks a therapeutic response and does not provide for the psycho-social or emotional needs of the child and its family.

The Children’s Amendment Act No 41 of 2007 provides the framework for psychological, rehabilitative and therapeutic services for abused children, but key to the effectiveness of this legislation is the appropriate resources for the act to be fully implemented (Proudlock & Jamieson, 2008). Due to the nature of CSA, child protection requires an integrated collaborative response from social services, the police, the courts, medico-legal services, health care services and education, as all these sectors are important in preventing and managing CSA with the aim of effectively protecting the child. Although child protection is a statutory function, historically, child protection services were primarily delivered by the non-government sector with large gaps in services, particularly in rural areas with shortages of skilled staff and resources (CASE, 2005). Despite the huge public health burden, services have primarily been focused on statutory processes, with alternative care used as a mechanism to ensure children’s safety (Loffel, 2004).

Internationally, it has been proposed to effectively address CSA it has to be managed in specialised units functioning with a multi-disciplinary team (Killian & Brakarsh, 2004; Maniglio, 2009). This model is based on the notion that the victim requires long-term therapy and it is therefore resource intensive. The challenge facing South Africa is the provision of effective services within a large diverse population (Higson-Smith, Lamprecht & Jacklin, 2004). A review of mental health responses for victims of sexual assault proposes that models of care should focus on the prevention of long-term psychological sequelae (Callender & Dartnall 2010). Limited resources should target those who present with symptoms after the first month to prevent the development of chronic symptoms, through psychotherapeutic treatments based on the needs of individual children and their families (Resnick et al., 1999). A few best-practice models exist in South Africa, an example is the Teddy Bear Clinic located in the urban area of Johannesburg with this model based on the multi-disciplinary team approach, offering
a range of services with an emphasis on medico-legal and therapeutic services to children and their parents (Higson-Smith et al., 2004). Specialist services in South Africa are, however, still limited as it is predominantly accessible only to those living in urban areas (Higson-Smith et al., 2004). In addition, the Children’s Act of 2005 provides for the mandatory reporting and registration of child abuse, which is intended to function at a national level in order to provide national data on patterns and trends to assist in planning (Richter & Dawes, 2008). Whether this is the appropriate strategy, given our budgetary constraints and limited resources, has been questioned (Loffel, 2004) as it can only be effective in partnership with well resourced child protection services that are monitored and evaluated (Richter & Dawes, 2008).

Although we have enabling legislation, policies and guidelines, there is a lack of a comprehensive national child protection strategy and dedicated resources to support its implementation. We urgently require a coherent multi-sectoral strategy to co-ordinate CSA within the ambit of child protection, with the aim of facilitating adequate resource allocation, prevent duplication, and to provide appropriate and effective long-term management across and between sectors.

CONCLUSIONS
CSA has been shown to affect large numbers of both girls and boys, with social context playing an important role in providing the space for such acts to occur. In order to prevent the sexual abuse of children it is imperative that we address the broader social context; such as improving the status of children as well as the position of women in South African society. The patriarchal nature of our society legitimises men’s position of power and their control over women and children, thus changing gender relations are key to shifting patterns of CSA. Furthermore, the composition of families and parent-child relationships also increases the vulnerabilities of children. Strengthening families and parenting practices is important in preventing not only CSA but also in assisting with recovery to reduce the long-term consequences. Importantly, advocating for improved services to children and their families after acts of sexual assault is critical. The long-term consequences are enormous and current responses are inadequate. Post-rape counselling needs to incorporate both the caregiver and the child as both needs assistance to deal with the trauma of sexual assault. What constitutes an effective response to CSA requires further exploration, but a comprehensive integrated service addressing both the health, psycho-social and legal needs of the child and its family is imperative to facilitate healing.
REFERENCES


Sexual Abuse


Sexual Abuse


This Chapter aims to provide a comprehensive synopsis and, in some instances, a critique of recent research conducted in the field of HIV/AIDS and sexual violence focusing specifically on children’s vulnerability and the consequences of the HIV/AIDS and violence nexus. In South Africa, sexual violence is aimed at the most vulnerable members of society, namely children, increasing their risk of HIV infection. Sexual violence and coercion amongst children and adolescents may increase susceptibility to HIV insofar as non-consensual sex is associated with increased genital trauma and coital injuries, the likelihood of anal penetration, the vulnerability especially of adolescent girls and the age difference between partners. Research studies have shown that HIV infection rates among adolescents are, on average, five times higher among girls than among boys (UNICEF, 2008a). According to the World Health Organization (WHO), United Nations International Children’s Emergency Fund (UNICEF) and the Joint Treatment Initiative (JTI), there have been efforts to protect children through interventions, policies and the use of laws such as the Children’s Act, it is recommended that much more needs to be done to enforce and implement these policies and laws to ensure that the agencies whose responsibility it is to protect children, are functional.

Keywords: sexual violence, HIV prevalence, child trafficking, rape, disability

INTRODUCTION

“Sexual violence and coercion among children and adolescents may increase susceptibility to human immunodeficiency virus (HIV) insofar as non-consensual sex is associated with increased genital trauma and coital injuries, the likelihood of anal penetration, the vulnerability of adolescent girls and the age difference between partners” (Klot & DeLargy, 2007, p.1). Research studies have shown that HIV infection rates among adolescents are, on average, five times higher among girls than among boys (UNICEF, 2008a). According to the World Health Organization (WHO), United Nations International Children’s Emergency Fund (UNICEF) and the Joint Treatment Initiative (JTI), there have been efforts to protect children through interventions, policies and the use of laws such as the Children’s Act, it is recommended that much more needs to be done to enforce and implement these policies and laws to ensure that the agencies whose responsibility it is to protect children, are functional.

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United Nations Program on HIV/AIDS (UNAIDS) (2009), there were 2.1 million children younger than 15 years living with HIV in 2008 (Abrams, 2009; UNAIDS, 2009). In some countries, there has been a notable decline in the number of new infections for children which could be due to the uptake of mother-to-child transmission prevention programmes as well as the probable global stabilisation of HIV prevalence among women (UNAIDS, 2008). However, at the end of 2008, 430 000 children under the age of 15 years became newly infected with HIV and approximately 280 000 children died of acquired immunodeficiency syndrome (AIDS) (UNICEF, WHO & UNFPA, 2009).

This Chapter aims to provide:

a. A synopsis of the recent research conducted in the field of HIV/AIDS and sexual violence, focusing specifically on children’s vulnerability and the consequences of the HIV/AIDS and violence nexus.

b. The latest information on risk factors associated with sexual violence and HIV.

c. Information on the impact and consequences of sexual violence and HIV.

d. A summary of HIV and AIDS prevention and intervention initiatives.

e. A description of psycho-social interventions aimed at the social protection of children as well as government policies that address HIV and children’s rights.

f. Recommendations for future projects, interventions and policy development.

HIV PREVALENCE AMONG CHILDREN IN SOUTH AFRICA

In sub-Saharan Africa, children are the most severely impacted by the HIV and AIDS epidemic (Cheng & Siankam, 2009). HIV prevalence in South Africa was noted as one of the fastest expanding epidemics in the world and has the highest number of children living with HIV, estimated at 280 000 children aged younger than 15 years living with the infection (UNAIDS, 2008). A national HIV prevalence and risk survey conducted in South Africa on children, found a 2.5% HIV prevalence among children aged 2-14 years (Brookes, Shisana & Richter, 2004). Whereas in 2005, according to the South African national household survey on ‘HIV Prevalence, Incidence, Behaviour and Communication’, an estimated 3.3% of children aged 2-14 years were infected with HIV, increasing slightly. Pettifor et al. (2004) and Shisana et al. (2005) found the HIV prevalence for adolescents between the ages of 15-19 years to be 4.8% in 2004 and 6.3% in 2005.

Even though it may seem as if the HIV prevalence in South Africa has stabilised (Department of Health [DoH], 2006, 2007b, 2008), and may in fact be declining slightly (Global Health Council, 2009; Katz & Low-Beer, 2008), more than 90% of children living with HIV have acquired the virus during their mother’s pregnancy, birth or breastfeeding – forms of HIV transmission that could have been prevented (Dorrington, Johnson, Bradshaw & Daniel, 2006; Michaels & Eley, 2007). Besides vertical transmission of HIV, contextual and environmental factors have a serious impact and causal effect on HIV infection among children in South Africa (Coetzee et al., 2005; Gisselquist, Rothenberg, Potterat & Drucker, 2002; Oguntibeju, Van Schalkwyk & Van Den Heever, 2003). The following section aims to examine the possible link of sexual violence, which includes sexual abuse, rape, forced sex, and HIV transmission/infection among children.

Linking HIV and sexual violence

According to Kotze (2010, p.1), “sexual violence is defined as any sexual act, attempt to obtain a sexual act, unwanted sexual comments, or advances, or acts to traffic, or otherwise directed, against a person’s sexuality using coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work”. Sexual violence takes place in various settings and under different circumstances. Sexual violence perpetrated
on children include: sexual abuse of children, forced sex, sexual abuse of people with mental and physical disabilities as well as sexual exploitation (Kistner, 2003; Kotze, 2010).

In South Africa, sexual violence is aimed at the most vulnerable members of society, namely children, increasing their risk of HIV infection (UNICEF, 2008b). Petersen, Bhana and McKay (2005) state that South Africa has one of the highest rates of sexual violence in the world and that adolescent girls between the ages of 12-17 years are particularly at risk. In a study conducted in 5000 classrooms for 10-19 year-olds 60.8% of 10-14 year-olds and 55.2% of 15-19 year-olds reported believing that sexual violence does not include forcing sex with someone they knew (Loffell, 2004). For females, 62% of 10-14 year-olds and 58.1% of 15-19 year-olds held the same belief (UNAIDS, UNFPA & UNIFEM, 2004).

Sexual abuse – a form of sexual violence, is a documented mode of transmission of HIV (Mok, 1996) and according to Rehle et al. (2007) there is a probable link between HIV infection and child sexual abuse, among other factors (Lalor, 2004; Shisana, Connolly, Rehle, Mehtar & Dana, 2008). According to the South African Police Services, more than 60 children were reported to be raped a day, this includes the rape of infants and young children (Richter, Stein, Cluver & de Kadt, 2009). In a study conducted by Sigsworth, Vetten, Jewkes and Christofides (2009), the age of victims where cases of rape were reported to the police were 14.6% for children 0-11 years and 25.2% for children aged 12-17 years. Adolescent girls experience a high rate of forced sex, ranging from 39% to 66% (Petersen et al., 2005) and more than a third of girls have experienced sexual violence before the age of 18 (e.g., unwanted touching, forced sex or being exploited into sex by much older men) (Jewkes, Abrahams & Mathews, 2009). Sigsworth et al. (2009) further stated that for children aged 17 years and younger where cases of rape were reported, adolescent girls faced the greater risk, with 63.3% of victims being girls between 12 and 17 years old. Children may also experience multiple perpetrator abuse as found in a study conducted in Gauteng, where 15% of children aged 0-11 years and 18% of children aged 12-17 experienced sexual abuse by more than one perpetrator (Vetten et al., 2008). According to Berry and Guthrie (2003), the figures of child sexual abuse that are reflected in reports do not accurately reflect the situation as it is well known that recorded sexual crimes largely under-estimate the actual prevalence due to under-reporting. It is also not known how many children have been infected with HIV as a result of sexual abuse but the physical damage caused, particularly in younger children, makes such transmission more than likely (Richter & Dawes, 2008).

“Rape and child sexual abuse directly increases children’s risk of contracting HIV, since it usually involves unprotected sex. It is not known how many children have been infected with HIV as a result of sexual abuse but the violent nature of rape may result in genital injury and bleeding which increases the risk of HIV transmission (Sexual Violence Research Initiative, 2010; Stackpool-Moore, 2008). In addition, many children do not have access to post-exposure prophylaxis medication after they have been sexually assaulted” (Delany, 2005, p. 48).

The highest rates of HIV infection are seen amongst 15-19 year-old girls. The high prevalence rates amongst girls of this age reflect their physical vulnerability to infection, their vulnerability in sexual relations and the impact of gender discrimination (Lukas, 2008). Differences in HIV rates between girls and boys indicate that teenage girls are more likely to be infected by older men than by boys their own age and these age differences increase the
likelihood of sexual abuse (Pettifor et al., 2005). The Nelson Mandela/HSRC (Human Sciences Research Council) study found that children aged 2-14 years had a HIV prevalence rate of 3.3% and that aside from the vertical transmission of HIV from mother to child in pregnancy and early infancy, there are other sources that put children at risk of contracting HIV (Shisana et al., 2005). Richter, Chandan and Rochat (2009) state that the reasons for the coexistence of high rates of child rape and high levels of child and infant HIV infection include the high level of violence perpetrated by South African men against women and children generally (Richter, Manegold & Pather, 2004). Risks associated within homes, include sexual abuse as well as the lack of care and protection for the children. Schools and communities can also be unsafe, especially for children who may be unsupervised in going between school and home. In an abusive relationship women and children have a limited ability to negotiate safer sex, increasing their risk of HIV infection (Delany, 2005; Shisana et al., 2005).

Child trafficking is another grave phenomenon that places children at risk of sexual violence thus increasing their risk of becoming infected with HIV (Richter & Higson-Smith, 2004). Child trafficking is defined as the exploitation of children via sexual exploitation, forced labour, organ removal, forced marriage, forced conscription (child soldiers), illegal adoptions through abduction or sale of children (Kreston, 2007; Laczko & Gozdziak, 2005; UNICEF, 2003). World estimates show that approximately 1.2 million children are exploited through trafficking domestically and internationally for various purposes with the majority of all victims being trafficked for sexual exploitation (Kreston, 2007; Laczko & Gozdziak, 2005). The consequences of child trafficking includes HIV, sexually transmitted diseases (STDs), tuberculosis (TB), mental health problems, substance use and abuse, violence, including gang rape, broken bones, murder and death (Kreston, 2007).

**RISK FACTORS INCREASING CHILDREN’S VULNERABILITY TO HIV/AIDS AND VIOLENCE**

**Lack of supervision in homes**

Children have been shown to be exposed daily to a variety of risky situations that increases their vulnerability to contracting HIV. The lack of safety and protection in households expose children to the risk of being sexually abused and exploited within their communities (Lalor, 2004; Lyles, Cohen & Brown, 2009). Tinsley, Lees and Sumartojo (2004) emphasised that families have a profound impact on the health, behaviours and the status of children (Ellis et al., 2003; Roche et al., 2005). Without the support, supervision and protection of the caregiver (parents/guardians) children are more vulnerable to abuse, and are often unable to refuse unwanted sexual advances which increase their chance of contracting HIV (UNICEF, 2008b). In situations where caregivers fail to provide for or protect their children, neglect and/or maltreatment is often the result, in which case children suffer harm (physical abuse, sexual abuse, emotional abuse and exposure to domestic violence), or their safety is endangered (Dawes, Long, Alexander & Ward, 2006; Fairbank & Fairbank, 2009; Townsend & Dawes, 2004). In the case of sexual abuse, where the caregiver fails
to supervise or protect the child, neglect is defined as a child having a substantial risk of being sexually molested or sexually exploited, where the caregiver knew or should have known the possibility of sexual molestation and failed to protect the child adequately (Dawes & Mushwana, 2007). Emotional neglect in relation to violence when experienced within the family is defined as a child witnessing or being involved with family violence within his/her home environment. This includes situations in which the child directly witnessed the violence (Dawes & Mushwana, 2007). According to Petersen \textit{et al.} (2005), violence against women within families in South Africa has a prevalence of physical violence ranging from 19.1\% to 28.4\%. Children who grow up with domestic violence are at serious risk for injury and psychological trauma (Dawes \textit{et al.}, 2006).

National prevalence data on violence against children in homes and families is not known, and the lack of reliable information on this type of violence against children is acknowledged as a gap and a problem for countries all over the world, not only in South Africa (UNICEF, 2008b).

**Lack of supervision in schools**

“Violence and particularly gender-based violence appears to be a significant problem, both in schools and out of schools” (Brookes & Higson-Smith, 2004, p. 119). The Department of Education (2002), in a submission to a task group on sexual violence in schools, found that South African schools have become a common locale for violence and sexual abuse particularly among girls. The role of school teachers in child rape has been reported in many other African countries (Jewkes, Levin, Mbananga & Bradshaw, 2002). Girls are forced to leave school because of pregnancies fathered by teachers and because of harassment by teachers. A girl’s ability to reach her economic and social potential is thus reduced and the likelihood of subsequent dependency on sex for survival increases. In a study conducted in the Western Cape in South Africa, 24\% of children aged 12-17 years old reported having been sexually assaulted in school and according to the statistics reported by the Education Labour Relations Council approximately 2 out of every 1000 educators had complaints of abuse and violence lodged against them (Dawes \textit{et al.}, 2006). In an evaluation conducted by the South African Human Rights Commission in 2002, it was found that education authorities in schools were not able to adequately protect children in schools and were also not able to address cases of abuse perpetrated outside schools, even when reported to educators (Dawes \textit{et al.}, 2006).

Schools in other countries, not only in South Africa have become to varying degrees, violent and unsafe environments where behaviours such as bullying, substance abuse, sexual abuse, verbal abuse, gangsterism, possession of guns and weapons, vandalism as well as a host of other antisocial behaviours are ever present.

**Poverty**

Poverty and inequality are significant contributors to South Africa’s burden of violence (Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009). South Africa is considered a middle-income country, however many South Africans are living in sub-standard conditions due to extreme poverty (Marais, Esser, Godwin, Rabie & Cotton, 2008). Meintjies, John-Langba and Berry (2008) support this; they report that more than 60\% of South African children are estimated to be living in poverty. Seedat \textit{et al.} (2009) suggests that in situations where there is great inequality there is an increased likelihood of escalating anger and frustration and as a result, violence might be used to gain the resources, power, and influence that others have or are perceived to have. For families affected by the HIV epidemic, poverty and limited household resources are a common occurrence (Foster & Williamson, 2000; Meintjies & Giese, 2004), where
children often suffer the brunt, as these situations present major barriers to accessing health care for young children (Smith et al., 2003). One of the aspects related to poverty stricken environments is that of overcrowding. Overcrowding increases the risk of child sexual abuse and situations for sexual violence (Richter et al., 2009). It also limits the possibility of separation between sexualised adults or teenagers and children and since co-sleeping is often necessary it may provide additional opportunities for sexual violence (Seedat et al., 2009). It is important to recognise that not all caregivers (parents and guardians) who live in poverty, abuse, emotionally neglect and/or are unable to monitor and supervise their children adequately (Townsend & Dawes, 2004).

For children who become orphaned, the situation becomes dire as poverty might exacerbate the living situation for relatives that may already be living in poor economic conditions (Ansell & Young, 2004; De Waal & Whiteside, 2003; Joint Learning Initiative on Children and HIV/AIDS-[JLICA], 2009). Some children may as a result of their poor economic conditions opt for dropping out of school in order to work to earn money; some may even take part in risky sexual behaviours in order to gain financial support (Makame, Ani & Granatham-McGregor, 2007). A national household HIV survey conducted by the HSRC in 2008 showed evidence that younger girls engage in sexual relationships for material gains (Shisana et al., 2009). It is evident that poverty continues to motivate younger girls to seek older sexual partners for financial assistance. In addition to this, some adolescent girls continue to engage in these sexual relationships with older men so that they provide food for their families (Shisana et al., 2005). This leaves these adolescent girls at risk of HIV infection, as these older sexual partners are less likely to use condoms.

In communities where economic development and opportunities are limited, commercial sexual exploitation of youth can be viewed as one of the few money-making opportunities for young females, reinforcing the norm of women having limited roles and girls being sexual objects (Lyles et al., 2009).

THE IMPACT OF HIV/AIDS AND SEXUAL VIOLENCE ON CHILDREN WITH SPECIAL NEEDS

Orphanhood and child-headed households

Children, especially orphaned children are particularly vulnerable to abuse, exploitation and violence (UNICEF, 2008b). Different actors (government, non-governmental organisations [NGOs], faith-based organisations and community-based organisations) of development have been promoting strategies of care for orphans and vulnerable children (Thurman, Brown, Richter, Maharaj & Magnani, 2006). UNAIDS (2004) define an orphan as a child under the age of 15 years who has lost his/her mother to AIDS. Due to the toll that HIV and AIDS has taken on the adult population in South Africa, approximately 1.5 million children are orphaned as a result of parents or caregivers having died of AIDS. Therefore as a consequence of HIV and AIDS, there are increasing numbers of child-headed households, where children are left without adult supervision or care (Maqoko & Dreyer, 2007). Unlike children residing with their parents, some orphaned children live in conditions with no one to look after and protect them. For example Kistner (2003) suggests that orphaned children are often taken in by neighbours and relatives increasing their risk of exploitation which includes withholding of resources or abuse of their entitlement to a child care grant (Bray, 2003). Studies investigating the relationship between household organisation and sexual risk behaviour suggest that adolescents not residing with both birth parents may be at increased risk of early sexual intercourse (Davids, Nkomo, Mfecane, Skinner & Ratele, 2006; Delany, 2005; Engle, 2008; Pettifor et al., 2004; Tinsley et al., 2004).
The impact of sexual violence and HIV on children is particularly severe as child-headed households increase; children are being forced to seek employment to care for themselves and/or their siblings, exposing themselves to abuse and exploitation (Dawes, van der Merwe & Brandt, 2007; UNICEF, 2008b). Often the work done by children is poorly paid, physically and emotionally difficult, and hazardous to their health and futures (Rau, 2003; Simbayi et al., 2006). In many of the households affected by HIV and AIDS, children have also assumed the responsibility of decision-making, thus transforming their roles within families and households (Embree, 2005; Lyons, 2008). Children become heads of households because they are left with no choice but to do so (Brookes et al., 2004). Some children take care of their parents and younger siblings who are sick and dying from AIDS related diseases, work long hours doing household tasks, and some children engage in income-generating work in order to support the families (Lyons, 2008; Munthali, 2002). In the end, many children drop out of school to the detriment of their own health and developmental needs to take on roles as parent, nurse and provider (Guest, 2001; Monash & Boerma, 2004; Simbayi et al., 2006). “For the children growing up in these communities even those who are uninfected, and who have no family members that are infected – HIV and AIDS negatively affects their lives” (Lyons, 2008, p. 3).

**Disabled children**

In South Africa, according to a census conducted in 2001 (Statistics South Africa, 2005) the data showed that there were 2 255 982 people with various forms of disability. The most recent surveys which provide some data on the prevalence of disability are shown to be between 5 and 5.9% (Statistics South Africa, 2005). People who are disabled are exposed to the same risk factors of HIV as every non-disabled person (Elliot, Utyasheva & Zack, 2009; South African National Aids Council [SANAC], 2008). However, disabled persons experience a double burden with regard to HIV and AIDS in that they are exposed to increased risk of infection, as well as reduced access to prevention, treatment and care services (UNAIDS, WHO & OHCHR, 2009).

Young girls, as well as older women who are disabled, either living in institutions or at home are often exposed to sexual violence and exploitation because of their physical vulnerability to attack, the level of dependency on others for care, which in some cases are the perpetrators (Banda, 2006; Groce, 2003; Interagency Coalition on AIDS and Development [ICAD], 2008; Rohleder, Swartz, Eide & MacGregor, 2009; SANAC, 2008). Because of the widespread misconception that disabled people are asexual, “many children are deprived of formal (at school) and informal (at home) education on sexual and reproductive health. This educational gap leaves people with disabilities in a vulnerable position, and can result in an inability to negotiate safer sex” (ICAD, 2008, p.1). There are a vast number of international research studies that suggest that persons with disabilities are at an increased risk of vulnerability for sexual violence (Rohleder et al., 2009). However, there are no current studies that provide data on HIV and violence that focus on disabled children within South Africa. The latest national HIV survey suggests high rates of HIV prevalence among disabled adults (Shisana et al., 2009). This suggests a need to design preventative interventions for this risk group, especially children.

**Children living on the street**

Although there seems to be minimal recent South African research studies that looks at the vulnerability of HIV-infection amongst children living on the street, previous studies show that this group of children are particularly susceptible to HIV-infection (Kruger & Richter, 2003; Roy, 1998; Richter & Swart-Kruger, 1995; van Rooyen & Hartell, 2002). Children living without their parents or familial support, who
are impoverished and with no one to care for them, may be forced to live on the streets and therefore are at considerable risk of abuse and sexual violence (Sexual Violence Research Initiative, 2010). According to the 2001 census data, the number of children living on the streets was recorded at 2 189 with their ages ranging between 10 and 17 years of age (Statistics South Africa, 2001). Although the census data does not disaggregate the population of children living on the streets by sex, the Presidency (2009) states that boys between the ages of 13 and 16 years were reported as the predominant group.

In the absence of adult support, children living on the street have a solitary task of fending for themselves and by so doing become vulnerable to sexual exploitation. For instance, living on the streets and engaging in ‘survival sex’ means sexual activity is likely to start at a younger age (Rotheram-Borus, Becker, Koopman & Kaplan, 1991), with multiple sexual partners and in the absence of condom use as clients tend to prefer and are willing to pay more for sex without a condom (Kruger & Richter, 2003). Due to the dire conditions children live under on the streets, their prime concern is likely to centre more on survival than the risk of being HIV-infected (van Rooyen & Hartell, 2002). Once infected with HIV, due to their poor health, and the fact that they are less likely to seek medical attention in the event of illness (Kruger & Richter, 2003) may mean that progression of HIV into AIDS is likely to take place at a faster rate than the case may have been if a nutritious diet had been followed (Matulessy, Florina & Asmuni, 1994) and medical attention had been sought.

CONSEQUENCES AND IMPACT OF HIV/AIDS AND VIOLENCE

Sexual violence in childhood or adolescence increases the likelihood of becoming engaged in various risky sexual behaviours such as early sexual debut, having multiple sexual partners and engaging in unprotected sex (Bhana, Zimmerman & Cupp, 2008; Sexual Violence Research Initiative, 2010). Firstly, adolescents are at risk of having first consensual sex at a younger age (Kistner, 2003; Kotze, 2010). The risks of earlier sexual debut have serious consequences for youth which include a higher likelihood of having multiple partners, lower likelihood of condom use at first sex and higher overall number of sexual partners, including high biological susceptibility to HIV infection of adolescent and young girls (Berry & Hall, 2009; Michel & Glynn, 2007; Myer et al., 2010; Shafer et al., 2008; Shisana et al., 2009). According to Pettifor et al. (2004) delaying age at first sex is one of the critical factors that can contribute to the decline in HIV prevalence. According to Reddy et al. (2003) in a national study conducted at high-schools – 14% of learners reported sexual debut before the age of 14 years, while more males (25.4%) reported having their first sexual experience younger than 14 years old, compared with their female counterparts (5.6%). Pettifor et al. (2004) found 80% of all youth aged 15-24 years reported having had sex before 15 years of age. For males, 12% were more likely to report having sex at an early age (less than or equal to 14 years) compared with females at 5% (Pettifor et al., 2004). In a study conducted by the HSRC, it was found that a small proportion of young people had started having sex before the age of 15 years. However, with regard to gender, more males aged 15-24 years old reported having sex before the age of 15 years compared with their female counterparts (Shisana et al., 2009). Factors linked to early sexual debut usually include the unlikely use of contraceptives and therefore unplanned pregnancies may occur (Baumgartner, Waszak Geary, Tucker & Wedderburn, 2009; Geary et al., 2008).

Secondly, having multiple sexual partners and engaging in unprotected sex has, through empirical research studies, been shown to be one of the factors promoting HIV transmission and is at the root of the HIV epidemic (Berry & Hall, 2009; Kalichman et al., 2007; Pettifor et al., 2005; Shelton, 2009; UNICEF, 2009). Eaton, Flisher and Aarø (2003) state that between 10% and 30% of sexually active
young people have more than one sexual partner at a given time, and that males usually engage in multiple partnerships compared to females. Berry and Hall (2009) confirm this in a study where they found that only 3% of young women in the 15-19 year age group reported having more than one sexual partner in the previous year, as opposed to 8% of males (De la Torre, Khan, Eckert, Luna & Koppenhaver, 2009).

Researchers have found that there are various reasons as to why young men and women engage in multiple sexual relationships, and one of the most common explanations provided is that multiple sex partnerships satisfies the diverse economic needs that young men and women experience (Kistner, 2003; Leclerc-Madlala, 2008; Muula, 2008; Shelton, 2009). This is where transactional sex comes into play, which Shelton (2009, p.1) is described as, “a social norm of expectation of gifts and economic support from men as part of a sexual relationship, in part expressing value, commitment, love, and respect”. The widespread practice of multiple relationships continues to contribute to the high levels of HIV infection among females, especially young females (De la Torre et al., 2009).

Thirdly and lastly, for individuals that have experienced forced sex in intimate relationships – it is often difficult because of the unequal power dynamic in such relationships to negotiate condom use and proposing the use of a condom (Blanc, 2001; Mercer et al., 2009; Pettifor et al., 2004; UNICEF, 2009). This is further intensified when the sexual partner of these young girls are older men, with intergenerational sex occurring when younger females or males have sex with older sexual partners (Aldo, 2009; Jewkes et al., 2002). In South Africa, Shisana et al. (2005) found that 29.5% of girls aged 15-19 years were infected with HIV and were in sexual relationships with partners 5 years and older. These relationships are largely premised upon material gain linked to materialism and consumption, with studies revealing that the greater the economic asymmetries between partners and the greater the value of a gift, service, or money exchanged for sex, the less likely the practice of safer sex (De la Torre et al., 2009; Shelton, 2009; UNICEF, 2009).

Apart from social and economic impacts, children affected by AIDS are themselves highly vulnerable to HIV infection. Their risk of infection arises from the potential early onset of sexual activity, commercial sex and sexual abuse resulting in a range of health consequences both in the short- and long-term which include, HIV, sexually transmitted infections, unwanted pregnancies, and Post Traumatic Stress Disorder (PTSD), to name but a few (Kotze, 2010).

A safety network for children affected by HIV and sexual violence is created by established patterns of extended families, across multiple generations and in multiple locations, and by communities with reciprocal obligations among their members (Simbayi et al., 2006). However, affected households and children need relief through material help as well as assistance with labour, care-giving and emotional support. Children who slip through these safety nets become highly vulnerable and exposed, and include street and working children, as well as children in child-headed households (Simbayi et al., 2006).

INTERVENTIONS FOCUSING ON HIV AND AIDS: THE SOCIAL PROTECTION OF CHILDREN’S RIGHTS AND SOCIAL SECURITY

According to Sampson (2010), the main role and aim of social protection for care and support are rallied toward economically disadvantaged and vulnerable populations, such as financially constrained homes and more especially, children affected by AIDS. Social protection also offers a role in transforming
the prospects for those less poor including AIDS-affected households with labour potential.

Community care forums, and NGO intervention programmes across South Africa are working together with various governmental departments, in some cases with the DoH and the Department of Social Development (DSD) in providing treatment and care services to children and their families affected by HIV. The NGOs provide much needed psycho-social support and poverty relief to vulnerable families burdened by HIV and AIDS (see Boxes to follow). Services include providing counselling, orphan support, home-based care, material assistance, assistance with applications for grants/welfare and income-generating projects as well as other forms of assistance (Rohleder et al., 2009). Furthermore, organisations assisting with the processing and distribution of child benefits (welfare grants), cash transfers as well as school assistance packages also increases children’s school attendance as education remains the single most effective HIV prevention asset (Nolan, 2009). According to Guthrie (2006, cited in the Organisation for Economic Co-operation and Development report, 2009) the child support grant in South Africa has increased school attendance and nutrition levels, while impacting positively on income poverty at household level.

According to Richter et al. (2004), it was noted that there were specific areas such as neglect, sexual abuse, maltreatment and exploitation, where children were insufficiently protected. Since then several intervention programmes have come to the fore to assist and alleviate the conditions under which children have suffered as a result of abuse and exploitation. Home-based carers have been placed in many communities across South Africa by NGOs in order to monitor, assist and report children living under abusive conditions (Ogden, Esim & Grown, 2004). Furthermore, volunteers, faith-based organisations, educators and community

## National NGOs interventions for children affected by HIV

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<th>National NGO</th>
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| **The Children in Distress Network (CINDI)** | Some of CINDI projects include:  
  - Child Advocacy Project (CAP): CAP’s goal is to ensure that children and their caregivers’ access relevant, user-friendly information in respect of their rights.  
  - CHIP (Child Intervention Panel) seeks to respond to delays experienced by children within the child care system. The panel aims to ensure administrative justice for children and their caregivers.  
  - The Singatha School Uniform Fund seeks to provide, through CINDI members, vulnerable children with school uniforms if their attendance at school is jeopardised by their being unable to afford the cost of a school uniform. |
| **AIDS Foundation** | Care of orphans and vulnerable children interventions:  
  e.g., early identification of vulnerable children and succession planning, facilitating kinship and community foster care, assistance with social grant applications, psycho-social support (bereavement counselling and play therapy) and monitoring the well-being of children. |
| **KidzPositive** | Improving the health of HIV-positive children in Southern Africa. To generate funds for the grassroots support of mothers and children affected by HIV/AIDS. Aim is to become a regional source of financial support for organisations providing care for significant numbers of affected families. The name of this Fund was inspired by the positive spirit and actions of these people. |
| [http://www.kidzpositive.org/about_overview.html](http://www.kidzpositive.org/about_overview.html) | |

members, have come together to provide assistance in reporting cases of child abuse and violence.
The CHILDREN’S HIV/AIDS NETWORK (CHAIN)

Aims of CHAIN:

• To develop and maintain a database of organisations concerned with children affected and infected by HIV/AIDS in the Western Cape.
• To disseminate pertinent information about HIV/AIDS.
• To facilitate co-operation, networking, joint programmes and rationalisation of services to children infected and affected by HIV/AIDS.
• To facilitate / promote education and training aimed at changing community perceptions, increasing HIV/AIDS awareness and promoting multi-sectoral responses.
• To facilitate policy and legislative analysis and development on issues related to children who are infected or affected by HIV/AIDS.
• To facilitate lobbying and advocacy on pertinent issues.

http://web.uct.ac.za/depts/chu/mch16g.rtf

Cotlands
Care to vulnerable children, with services ranging from home based care of HIV-positive children through to end stage palliative care for children with AIDS. Emphasis is placed on supporting the child and their family in the community through various outreach programmes, which include home based care, orphan care, counselling services, and nutrition. The residential component is only used in emergency situations for acute, chronic and terminally ill children who cannot be cared for at home or children who have been orphaned or abandoned.

http://www.cotlands.org/

HOPE world-wide South Africa
Key services provided include psycho-social support to both children and adults, educational support to children, food and nutritional support to children and their families. Assistance is also provided by obtaining legal documentation required to access social grants, and referrals are undertaken for those services that the programme is unable to provide. The OVC programme has adopted innovative approaches to ensure the quality of its services (Ching’andu, Njaramba & Welty-Mangxaba, 2008).

St Francis Care Centre
CHILDREN’S SECTION
Provides a home for 30 abandoned or orphaned children from birth to 7 years of age. A professional team of medical staff, teachers and a social worker take care of the children to ensure their well being and the development of their full potential. The children aged between 3-7 years attend a nursery school on the premises.

ANTI-RETROVIRAL CLINIC
This clinic was opened on 1st September 2004 and offers free counselling, testing and treatment to all members of the community. To date more than 2000 patients have visited the clinic for counselling and testing and 748 of these have been started on anti-retroviral treatment with very encouraging results. The anti-retroviral drugs are provided free as a result of donations received from American PEPFAR (The Presidents Emergency Plan For Aids Relief) funding.

HOME BASED CARE
The centre has an active team of care helpers providing home based care to persons infected and affected by HIV/AIDS in the Greater Ekurhuleni communities. Clients currently receiving assistance include HIV/AIDS patients, orphaned children, child headed households and families affected by the pandemic.

http://www.st-anthonyscentre.co.za/st%20francis.html

OLIVE LEAF Foundation
Enabling sustainable community development in five provinces in South Africa and five other sub-Saharan countries. Various interventions promote gender equality, care and support for orphans and vulnerable children and education, and capacity to build effective communities that are able to cope with the AIDS pandemic.

www.olf.org.za
Interventions targeting social protection of children’s rights and social security

RAPCAN Protecting Children’s Rights
RAPCAN (Resources Aimed at the Prevention of Child Abuse and Neglect) is a registered section 21 Company, non-profit organisation and public benefit organisation based in Cape Town. RAPCAN’s work is focused on the prevention of child victimisation and offending and the promotion of children’s rights, and operates locally, at provincial and national levels in South Africa, as well as in the region and internationally. RAPCAN’s work includes primary, secondary and tertiary prevention approaches to the following issues within the children’s rights arena:
• Child sexual abuse
• Corporal and humiliating punishment
• Child offending, especially sexual and violent offending

www.rapcan.co.za/

CHILD WELFARE South Africa (CWSA)
On a national level, CWSA initiatives for children and our constitutional obligations to affiliates are delivered through five programmes aimed at:
• Creating safe and caring environments for children and promoting community mobilisation for the effective protection of children.
• Strengthening and developing capacity in member organisations providing services to children and families.

This programme, named by communities as Asibavikele: Let’s Protect Them, is a CWSA nationally coordinated project that facilitates community care and support for children orphaned and made vulnerable by HIV and AIDS. The programme trains volunteers to mobilise and involve communities in the identification and care of orphans and vulnerable children, the sensitising of communities to the rights of children and establishes foster care homes and safe homes. Between 2005 and 2006, the project trained 696 community volunteers and identified 8 524 orphaned and vulnerable children in need of Asibavikele’s comprehensive service package. From 2006 to 2007 a further 545 volunteers were trained and an additional 10 141 children reached. From 2007 to 2008, seventeen more sites were established, 15 949 orphans reached and 1 758 volunteers trained. A further 80 sites are planned for the 2008-2009 period. A partnership between CWSA and the Thokomala Orphan Care Organisation has seen foster care homes established in communities, staffed by foster mothers and monitored by social workers linked to the Asibavikele programme.

http://www.childwelfaresa.org.za/

CHILD LINE
Childline is an effective non-profit organisation that works collectively to protect children from all forms of violence and to create a culture of children’s rights in South Africa. Programmes delivered through the provincial offices include: Crisis Line; child rights, prevention and education; training of volunteers; training of other professionals who work in child protection and children; therapy for abused and traumatised children and their families; court preparation for child witnesses; networking and coordination; as well as advocacy.

http://www.childlinesa.org.za/

TEDDY BEAR CLINIC for abused children
The Teddy Bear Clinic is a non-profit organisation dedicated to ensuring abused children are protected and rehabilitated. Providing therapy, counselling, assistance, love, comfort, safety and ongoing support to children who have been abused. The Teddy Bear Clinic does not only work with children, but with parents and communities empowering them with knowledge and skills to help put an end to child abuse. Proactive approaches to schools are taken to provide education to the learners and training to the teachers in order to prevent any abuse that may happen in their day-to-day lives.

Children
Children are helped from all walks of life from ages 3 - 18. Visiting schools and equipping the children with knowledge on how to handle various situations. By educating children their awareness of sexual, physical and drug abuse is increased.

Parents
Because there is an understanding that abuse affects everyone in a family environment, assistance is provided to parents who are affected by child abuse.
To help parents understand what their children have undergone, counselling and therapy is offered.

Communities
Communities are assisted by equipping them with information on how to deal with abuse by running workshops and training. Most of the volunteers are from the communities assisted.


THUTHUZELA CARE CENTRES
The Thuthuzelas in operation in public hospitals in communities where the incidence of rape is particularly high are also linked to the sexual offences courts, a new and unique South African anti-rape intervention. As part of the strategy, a specialised Sexual Offences Court is staffed by a committed cadre of prosecutors, social workers, investigating officers, magistrates, health professionals and police, and located in close proximity to the Thuthuzela.

www.npa.gov.za

GOVERNMENT POLICIES ADDRESSING THE PROTECTION OF CHILDREN IN SOUTH AFRICA

Policies addressing the social protection of children’s rights
A number of policies address children’s rights and social protection:

- The Children’s Act (No. 38 of 2005) and the Children’s Amendment Act (No. 41 of 2007): the objectives – protecting children from maltreatment, abuse, neglect, or degradation – to promoting the protection, development and well-being of children.
- The Sexual Offenses Amendment Bill (B50B/2003) of 2006 – includes a clause on transitional provisions relating to trafficking in persons for sexual purposes. The Bill was included to comply with South Africa’s international obligations and to deal with the rapid growth of the global phenomenon (Kreston, 2007).

Other legislation addressing the protection of violence against children includes:
- The Domestic Violence Act (No. 116 of 1998).
- The Schools Act (No. 56 of 1996).

According to Dawes and Mushwana (2007), the establishment of provincial protocols and child protection committee’s were set up in all provinces in South Africa for the management of child abuse. However, practical application of the committees is questionable and their functioning varies. Other key policies that the South African government has implemented to ensure the care and protection of children include: the Child Support Grant and The Foster Child Grant (Barnes, Noble, Wright & Dawes, 2008; Budlender, Proudlock & Jamieson, 2008).

Policies addressing HIV and AIDS
The South African government has adopted a range of legislative measures and has formulated a number of policies to ensure the survival of children in South Africa. Policies to ensure optimal support for mothers and children are the following (DoH, 2007a):

- Maternal, Child and Women’s Health.
- Infant and Young Child Feeding Policy (2008).
- School Health Policy for South Africa.
- Policy guidelines for Youth and Adolescent health.

In 2006, the National DSD implemented the policy framework for Orphans and other Vulnerable Children affected by HIV/AIDS (OVCAHA). The framework has six key strategies which in brief focus on strengthening families, mobilising and strengthening communities, ensuring policies and programmes are put in place, assuring access to essential services, raising
awareness and advocating supportive environments, engaging civil society and businesses in communities, to the care and protection of orphan and children made vulnerable by HIV and AIDS (DSD, 2005).

In 2007, a revised HIV and AIDS National Strategic Plan (NSP) were officially approved by the government of South Africa (HIV & AIDS and STI National Strategic Plan 2007-2011, 2007). The NSP contains four priority areas which comprise 19 goals (see Table 1). Of the 19 goals outlined in the plan, nine goals have been integrated with objectives and interventions which mention or affect children directly (see Table 2). Unlike the previous plan, the 2007 NSP presents objectives which addresses HIV prevention and treatment, legislation, social security, education, mental health, and developmental monitoring (DoH, 2007a; Michaels & Eley, 2007).

South Africa faces a vast number of challenges especially within the health care system and where the burden of HIV infection is on the increase every year, there are resources that exist in South Africa that can enable the improvement of HIV prevention, care and treatment, as well as the successful implementation of the HIV and AIDS and STI Strategic Plan (Michaels & Eley, 2007).

**CONCLUSION AND RECOMMENDATIONS**

The chapter illustrates a gap not only in research on children and HIV but also in the link between violence and HIV among children. This gap is even more evident among vulnerable children such as children living with disabilities, those living on the street and orphaned children. It is a fact that children remain vulnerable not only to sexual violence and infection with HIV but to other kinds of abuse at the hands of adults including trafficking and prostitution. To date, there have been efforts to protect children through policies and use of laws such as the Children’s Act, however much needs to be done to enforce and implement these policies, including plans to ensure that the agencies whose

<table>
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<th>Table 1. Priority areas and goals</th>
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<td><strong>Priority area 1</strong></td>
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<td>Goal 1</td>
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<td><strong>Priority area 2</strong></td>
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<td>Goal 5</td>
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<td><strong>Priority area 3</strong></td>
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<td><strong>Priority area 4</strong></td>
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<td>Goal 18</td>
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<td>Goal 19</td>
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The high rates of violence against children reported in this Chapter are alarming in a country that has laws that should protect children but seem to be failing to reduce levels of violence and incidents of violent crimes against children. This may suggest a need for specialised enforcement agencies, such as the child protection unit, to focus on crimes against children more directly.

With regards to the prevention of HIV and sexual violence it is of concern that access to post-exposure

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<tr>
<th>Target</th>
<th>2007</th>
<th>2011</th>
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<td><strong>Paediatric HIV management targets</strong></td>
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<tr>
<td>Increase the number of new children starting ART</td>
<td>17 000 children</td>
<td>40 000 children</td>
</tr>
<tr>
<td>Increase the proportion of children receiving cotrimoxazole</td>
<td>30% of facilities</td>
<td>90% of children</td>
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<tr>
<td>Implement provider-initiated HIV testing for children of HIV-infected adults</td>
<td>30% of facilities</td>
<td>95% of facilities</td>
</tr>
<tr>
<td>Increase the proportion of immunization facilities offering HIV PCR testing for infant diagnosis</td>
<td>40% of facilities</td>
<td>100% of facilities</td>
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<tr>
<td>Increase the number of exposed children tested with HIV DNA PCR testing</td>
<td>45% of facilities</td>
<td>90% of facilities</td>
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<tr>
<td>Increase the proportion of symptomatic children tested for HIV attending primary care and hospital facilities</td>
<td>50% of facilities</td>
<td>90% of facilities</td>
</tr>
<tr>
<td>Increase the proportion of children receiving cotrimoxazole and a CD4 test at the time of diagnosis</td>
<td>35% of facilities</td>
<td>90% of facilities</td>
</tr>
<tr>
<td>Increase the proportion of HIV-infected children not on HAART who had a CD4 count according to guidelines</td>
<td>30% of infected children</td>
<td>80% of infected children</td>
</tr>
<tr>
<td>Increase the proportion of HIV-positive and exposed children receiving cotrimoxazole</td>
<td>65% of children</td>
<td>100% of children</td>
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**Child-specific target in respect of education, social security and mental health**

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<tr>
<th>Target</th>
<th>2007</th>
<th>2011</th>
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<tr>
<td>Development of guidelines for HIV training in schools</td>
<td>Completion of guidelines</td>
<td>80% of target groups reached</td>
</tr>
<tr>
<td>Develop capacity in schools to provide psycho-social, educational and adherence support to children in need</td>
<td>15% of schools</td>
<td>80% of schools</td>
</tr>
<tr>
<td>Access to grants and benefits at social services level for OVCs and child-headed households</td>
<td>30% (in 2008) of OVCs</td>
<td>100% of OVCs</td>
</tr>
<tr>
<td>Provision of psycho-social support for children and adolescents including counselling for bereavement, disclosure, adherence and sexual aspirations</td>
<td>10% of sub-districts</td>
<td>100% of sub-districts</td>
</tr>
<tr>
<td>Implementation of biannual developmental screening for all children &lt;5 yrs</td>
<td>6% of children &lt;5</td>
<td>60% of children &lt;5</td>
</tr>
<tr>
<td>Increase capacity of health facilities to identify children with developmental delay for appropriate referral</td>
<td>60% of facilities</td>
<td>90% of facilities</td>
</tr>
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prophylaxis is still limited for children who are survivors of rape and sexual abuse. More research should be done in this area and education campaigns should focus on promoting help seeking behaviour among parents and caregivers whose children are sexually abused or raped. This should be among the priority areas that should be focused on to ensure that children exposed to sexual crimes and violence are protected from being infected with HIV.

Lastly the protection of children at home and schools seems to be a critical area of intervention. Statistics presented in this chapter illustrate that homes and schools often provide an entry point for perpetrators especially in households without caregivers, as is the case of orphans and other vulnerable children. Welfare agencies need to ensure that children access social grants to ensure that they are not victimised by those offering help or food in exchange for sexual favours. Interventions should also ensure that adults in the community begin to adopt families left destitute and ensure that the protection of these children become a community prerogative not just a state responsibility.

Recommendations for developing interventions and possibly informing policy:

- Child-focused research need to be conducted in South Africa and research needs to include questions on HIV, sexual abuse, sexual norms, violence and risk factors in large-scale national surveys and linking interventions to outcomes (Dawes et al., 2007; Noble, Wright & Cluver 2006).
- The South African Police Services crime statistics team needs to adequately train staff to capture information so that updated and reliable information from their side is made accessible to the public.
- As it was found that education authorities in schools were not able to adequately protect children in schools as well as not able to address cases of abuse perpetrated outside schools, even when reported to educators – this needs to be immediately addressed, especially in cases where educators are the abusers.
- The government should identify the reduction in violence and injuries as a key goal and develop and implement a comprehensive, national intersectoral, evidence-based action plan (Seedat et al., 2009).
- Primary prevention interventions need to be developed that addresses sexual violence by taking environmental factors and societal norms that contribute to its occurrence in the

### Key messages

- Violence against children and the association with HIV and AIDS epidemic is inter-linked on a number of levels as both a cause and a consequence.
- HIV prevalence in South Africa was noted as one the fastest expanding epidemics in the world and has the highest number of children living with HIV in the world with an estimated 280 000 children below the age of 15 years living with the infection.
- Child trafficking is another grave phenomenon that places children at risk of sexual violence and in turn increasing their risk of becoming infected with HIV.
- Young girls as, well as older women, who are disabled, either living in institutions or at home are often exposed to sexual violence and exploitation because of their physical vulnerability to attack, their level of dependency on others for care, which is some cases are the perpetrators.
- Several intervention programmes have come to the fore to assist and alleviate the conditions under which children have suffered as a result of abuse and exploitation.
- Legislation and of policies addressing children’s rights and social protection include: the Children’s Act (No. 38 of 2005) and the Children’s Amendment Act (No. 41 of 2007); the Sexual offenses Amendment Bill (B50B/2003) of 2006; the Prevention of Family Violence Act (No.133 of 1993); the Domestic Violence Act (No. 116 of 1998) and the Schools Act (No. 56 of 1996) – aiming to protect children from maltreatment, abuse, neglect, or degradation.
Primary prevention approaches need to be developed that addresses child sexual abuse and exploitation that promotes safe, healthy environments and behaviours, reducing the likelihood of abuse in the first place (Lyles et al., 2009).

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ABSTRACT
In this Chapter, we provide a comprehensive presentation of what is known about bullying in schools. We begin with highlighting the epidemiology and nature of bullying, and we proceed with the research findings of hypothesised antecedents and consequences of bullying. Then, we present the anti-bullying intervention programmes, along with a commentary of their effectiveness, and our recommendations for further preventative measures. Throughout the Chapter, we adopt a critical stance towards the international and South African bullying literature, pointing out strengths and deficits of the theories, research methods, and practical applications employed. We concur that investigators must carefully synthesise existing theoretical and empirical information and use it as a basis for developing anti-bullying programmes. To be efficacious, preventative efforts need to be theory-driven, data-driven, and subjected to rigorous evaluation.

Keywords: bullying at schools, risk-factors, prevention strategies

INTRODUCTION
Bullying is a noxious intentional action aimed at causing physical and/or psychological harm to one or more students, who are weaker and find it difficult to defend themselves (Olweus, 1993; Rigby, 1996; Smith & Sharp, 1994). In this Chapter, we present:

a. What is known about the nature of bullying.

b. The roles adopted in bullying relationships.

c. The behavioural correlates of bullying, as well as factors that sustain it.

d. The anti-bullying programmes that appear in the international published literature.

e. Core intervention recommendations, based on the international and South African research outputs.

OVERVIEW OF BULLYING
Bullying is seen as a subset of aggressive behaviour (Olweus, 1999), that is expressed in an open, direct way (e.g., physically hitting, kicking, punching someone; verbally threatening, insulting, teasing, taking belongings), and/or in a relational, indirect way (e.g., spreading rumours, gossiping, excluding and isolating someone from a group). More recently, the Internet has provided an arena for additional types of bullying (cyber-bullying), including behaviours such as name-calling using MSN (Microsoft’s messaging service, which provides text messaging and voice calling), sending threatening emails and viruses, hacking and posting one’s picture or video on the Internet without permission (Dehue, Bolman & Völlink, 2008). Although researchers have not reached consensus as to how bullying is best conceptualised (Griffin & Gross, 2004), most agree that bullying encompasses personality elements, group dynamics, repetition, intentionality, and power imbalances amongst those involved (Greene, 2000; Olweus, 1994). Studies have revealed bullying in schools as a common, worldwide, phenomenon:
in high-income countries, prevalence rates are reported between 5% and 35% (Chesson, 1999) and between 9% to 54% (Nansel, Craig, Overpeck, Saluja & Ruan, 2004). In South Africa, bullying has been reported to be as high as 61% in a sample of high-school students in Tshwane (Neser, Ovens, van der Merwe, Morodi & Ladikos, 2003), 52% in Grade 8 students of Cape Town (Townsend, Flisher, Chikobvu, Lombard & King, 2008), 41% in a national sample of high school students (Reddy et al., 2003), 36.3% in Grade 8 and 11 students in Durban (Liang, Flisher & Lombard, 2007), 24.3% in Grade 9 students in Port Elizabeth (Fisher et al., 2006), 16.49% in rural high school students in the Eastern Cape (Mlisa, Ward, Flisher & Lombard, 2008), and 11.8% in rural high schools in Mpumalanga (Taiwo & Goldstein, 2006).

With the exception of cyber-bullying, all other types of bullying occur in groups, wherein participants mainly take on the roles of bully, victim, bully-victim (i.e., students who are both bullies and victims). Moreover, a peer group is usually present during bullying, members of which may be neutral (bystanders), assist the bully or make fun of the victim (reinforcers), or aid/console the victim (defenders). Studies have shown that, even when students believe that bullying is wrong, they still tend to encourage the bully, instead of helping the victim (Salmivalli, 1999; Sutton, Smith & Swettenham, 1999). In addition to the peer group, Olweus (1991; 1993) documented that teachers are often present during bullying; teachers can be either unaware of bullying taking place, or may choose not to intervene. Children can interpret adult non-intervention as approval, which may sustain and reinforce bullying, as well as non-disclosure of the act (Crothers & Kolbert, 2008). Although data are inconclusive, studies assessing gender effects reveal that boys are more likely to be classified as bullies (Veenstra et al., 2007), as well as bully-victims (Olweus, 1993; Liang et al., 2007). On the whole, sex effects are not reported for victimisation (Espelage, Mebane & Adams, 2004; Hanish & Guerra, 2004; Pellegrini, Bartini & Brooks, 1999; Schwartz, 2000), although some reports assume girls to be more frequent victims and perpetrators of indirect bullying (Olweus, 1993). Pellegrini and Long (2002) found bullying as more often directed to children of the same sex, than toward children of the opposite sex. With regard to age, bullying gradually declines as children grow older (Fisher, Mathews, Mukoma & Lombard, 2006; Olweus, 1993; Smith, Madsen & Moody, 1999), and some authors suggested that a certain amount of bullying may be a developmental phenomenon that peaks at early adolescence (Fisher et al., 2006), and during the transition from primary to secondary school (Pellegrini & Long, 2002; Smith et al., 1999).

**Correlates of bullying**

In this section, we deal with the psycho-social and contextual factors that have been found to contribute to the onset of bullying, as well as with hypothesised effects of having experienced bullying, as a victim or bully. Findings drawn from bullying research need to be interpreted with caution, as the research designs used in this domain (i.e., case studies, cross-sectional surveys, retrospective and longitudinal surveys) are fraught with several limitations. Specifically, the correlational nature of these designs and their reliance on self-reports, must be taken into consideration. Biases involved in self-reports, such as self-presentation (i.e., presenting oneself in a more ‘socially favourable’ light than actually is), and memory problems, are well documented and might result in over- or under-reporting a behaviour (Allport, 1942; Mayer, McCormick & Strong, 1995; Rigby, 2003). Longitudinal designs are assumed to offer the most valid findings, as data are gathered at more than one point in time. For example, data can be collected before and after participants have experienced bullying, and health changes occurring after the bullying can be more confidently attributed to the effects of exposure to bullying, than is the
Bullying in Schools

case with cross-sectional designs. However, one cannot be certain that such results are caused by bullying. Methods of data collection typically include self-reports (e.g., data obtained from students using questionnaires and interviews), peer nominations (e.g., the students say who are the bullies and the victims), teacher reports (teachers’ estimation of extent of bullying and the students involved), and direct observation (researchers themselves observe bullying in the context it unfolds, or via the use of recording devices). Methodological limitations notwithstanding, the available body of research allows a presentation of ‘typical’ behavioural profiles of those involved in bullying.

The behaviour of the bully

Bullying is often attributed to personality and family characteristics (Olweus, 1993). Specifically, it is argued that bullies possess a hot-tempered, impulsive and domineering temperament (Bernstein & Watson, 1997), reinforced by growing up in a family that tolerates aggression and the use of power-assertive discipline, such as corporal punishment (Carney & Merrell, 2001; Olweus, 1980). The parents of bullies are reported to be cold and indifferent; inconsistent in their demonstration of affection; and unable to set clear boundaries (Carney & Merrell, 2001; Farrington, 1993; Olweus, 1993). A common misconception, backed by early research (e.g., Roland, 1993), describes bullies as having a low level of intellectual functioning, and lacking effective social skills. Furthermore, bullies are reported to be unable to process social information accurately (Randall, 1997) or understand others’ feelings, thoughts and perspective (Hazler, 1996). In this view, bullies resort to violence as their only means to reach their goals, as their repertoire of responses is limited by their intellectual and social impairments. However, more recent studies (e.g., Sutton, Smith & Swettenham, 1999) rejected this view of bullies, pointing to the fact that the social context and skills of bullying depend on the ability to understand and manipulate the minds of others, i.e., possessing a superior theory of mind. Theory of mind (Premack & Woodruf, 1978) refers to the ability to explain and predict others’ desires and behaviour, based on own mental states – theory of mind is accomplished at childhood, from the age of six and develops onwards (Wellman, 1990).

Bullies seem to be able not only to spot which of their peers are suitable candidates for victimisation, but also to succeed in gaining support from their social environment. For example, bullies are adept in predicting those who will join in the bullying, and in coming up with appropriate justifications for the bullying. These cognitive mechanisms may be more obvious in indirect methods of bullying, such as social exclusion or isolation and gossiping, all of which require the ability to manipulate a developed social infrastructure (Bjorkqvist, Lagerspetz & Kaukiainen, 1992). In a similar vein, earlier descriptions of bullies, as experiencing low levels of self-worth and self-esteem (Besag, 1989), are contradicted by studies showing bullies’ scores on self-esteem scales as generally comparable to their peers (Carney & Merrell, 2001) and even slightly higher (Rigby & Slee, 1993). Such data prompted a number of investigators to shift their view of bullying as based on social deficiency, towards bullying based on social reward. Hawley (1999; 2003), Olweus (1993) and Veenstra et al. (2007) argued that one main motivation behind bullying, is to obtain higher status, prestige and power within a peer group. Since striving for status is considered a ubiquitous human goal (Lindenberg, 2001), it would be reasonable to assume that the bully is guided by a desire to establish high status within his or her group. In terms of the means of obtaining status, it has been documented that the bully derives satisfaction from inflicting injury on others (Olweus, 1995), understands the emotions involved in victimisation, but does not share them (Happé & Frith, 1996) and regards domination as more rewarding than being seen as socially competent (Arsenio & Lemerise, 2001).
Although people perceive the negative effects of bullying more in terms of victimisation, perpetration is also linked with compromising outcomes. Unsurprisingly, perhaps, studies have shown that those identified as bullies at school, are more likely to be convicted for a crime by early adulthood (Brewster & Railsback, 2001; Farrington, 1993; Olweus, 1997). Bully status has also been consistently associated with depression, suicide, conduct disorder and psychosomatic complaints (Carney, 2000; Kaltiala-Heino, Rimpelä, Rantanen, & Rimpelä, 2000; Klomek, Marrocco, Kleinman, Schonfeld & Gould, 2007), risk-taking behaviours, such as substance use (Liang et al., 2007), and poor academic achievement (Townsend et al., 2008).

The behaviour of the victim
Victim status is also attributed to personality and family characteristics. Olweus (1993, 1995, 1997) describes typical victims, also known as passive victims, as anxious, overly sensitive, submissive, cautious, insecure, quiet, low in self-esteem and as having only a few friends. Some victims may come from over-protective or enmeshed families, wherein independence and self-assertion is not emphasised (Smith & Myron-Wilson, 1998). Another type of victim is the provocative or bully-victim. Bully-victims, encountered less often than passive victims, are both victims and perpetrators of bullying. The basis of acquiring the bully-victim role may be a lack of social skills and an inferior theory of mind. Studies (e.g., Carney & Merrell, 2001; Greene, 2000) have shown that bully-victims often violate social norms by interfering in conversations, being impatient, finding it hard to wait for their turn, and engaging in behaviours typical of attention deficit hyperactivity disorder (ADHD) (American Psychiatric Association, 1994). Thus, bully-victims tend to cause irritation around them, and, in a way, elicit all sorts of negative responses, including bullying, from their peers. Studies consistently suggest that, compared with victims and bullies, bully-victims are the most vulnerable for depression (Seals & Young, 2003), anxiety-related disorders (Kaltiala-Heino et al., 2000), conduct disorders (Junoven, Graham & Schuster, 2003), poor self-esteem, high neuroticism, poor problem-solving ability (Smokowski & Kopasz, 2005), truancy and academic difficulties (Dake, Price & Telljohann, 2003), substance use (Forero, McLellan, Rissel & Bauman, 1999) and suicidal tendencies (Klomek et al., 2007). Recent South African studies found that bully-victims from schools of Cape Town and Durban, demonstrated comparable aggressive, antisocial, and risk-taking behaviours to bullies and comparable suicidal tendencies and tobacco use to victims (Liang et al., 2007). Also, female bully-victims (but not male bully-victims) from Cape Town schools were more likely to drop out (Townsend et al., 2008). The social or contextual factors that sustain perpetration (premium on power, status, dominance; peer-group encouragement; lack of teacher interference), combined with the victim’s characteristics (shy demeanour, sensitivity, lack of friends or support group) help explain why the victim finds it hard to object to, and end, the abuse. In an environment where aggressive behaviours are accepted, admired even, victims are likely to ‘internalise’ bullying, that is, assuming bullying is a normal behaviour, triggered by their own characteristics (Crothers & Kolbert, 2008). Moreover, it has been documented that even when victims initially react to being bullied, as provocative victims would do, this fails to stop the bully, and may even heighten the level of aggression (Camodeca, Goossens, Terwogt & Schuengel, 2002).

Bullying as bias: A social-cognitive process
Published studies on bullying place a premium on the individual (i.e., personality characteristics, developmental factors, internal motivations, family background), whilst addressing, albeit less so, the peer group context in which bullying unfolds, and even less so the social-cognitive processes at work. However, bullying includes all the characteristics of
social inter-group bias, whereby, one group of people – the in-group – systematically and consistently perceive themselves more favourably than another group, the out-group (Hewstone, Rubin & Willis, 2002). Bias encompasses negative behaviours (discrimination), cognitions (stereotypes), attitudes (prejudice), and is unfair, because it is not based on objective evidence of the situation (Fiske, 1998; Wilder & Simon, 2001). In psychology, ever since individualistic explanations of bias were abandoned (i.e., the authoritarian personality: Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950) inter-group bias and conflict have been traditionally explained through the Social Identity Theory (SIT) (Tajfel & Turner, 1979), and its more recent version, Social Identity Developmental Theory (SIDT) (Nesdale, 1999). SIT and SIDT postulate that children and adults engage in peer groups and friendships due to social identity and self-esteem concerns; being a member of a group is paramount in forming one’s sense of identity and self-worth. Under optimal conditions, establishing and securing social identity requires some amount of in-group favouritism, in relation to the out-group, but not out-group disparagement (Brewer, 1999). Bullying, however, and peer group conflict, occur when in-group children think that their status might be enhanced by out-group derogation, or, is somehow threatened by the out-group (Nesdale & Scarlett, 2004). Gini (2006), in an experimental study, applied the SIT/SIDT to assess bullying perceptions in preadolescent students, and demonstrated participants’ consistent preference for their own group (in-group) and derogation of the out-group. Relevant to this, authors have put forth the argument that lack of adequate contact, in terms of quantity and quality, between in- and out-group members will lead to bias and conflict (the contact hypothesis) (Allport, 1954; Brewer & Gaertner, 2001; Gaertner & Dovidio, 2000; Hewstone 1996; Pettigrew, 1998). Understandably, the SIT and contact hypothesis could describe and explain an amount of bullying based on racial or ethnic differences, which is clearly relevant to South Africa. Although not restricted to bullying, South African studies have assessed the effect of inter-racial contact in schools. Holtman, Louw, Tredoux and Carney (2005) found that inter-racial contact between learners was a strong predictor of positive inter-group attitudes and behaviours, even when the strength of the group identity was accounted for. Moholola and Finchilescu (2006) found that black students’ attitudes were significantly more positive towards that of white students in a multiracial school, as compared with those attending an exclusively white school.

Although not conforming to a specific theoretical model, a number of international studies associated victimisation with ethnicity, revealing ethnic minority students as more likely to become victims of bullying, but not perpetrators (Maharaj, Tie & Ryba, 2000; Wolke, Woods, Stanford & Schulz, 2001). Studies assessing the role of ethnicity in perpetration are scarce and have yielded conflicting results (Nguy & Hunt, 2004).

ANTI-BULLYING PROGRAMMES

Given that bullying is essentially a group process, occurring amongst and being influenced by peers (Sutton et al., 1999; Veenstra et al., 2007), and that most bullying takes place in schools (Olweus, 1993), the majority of anti-bullying programmes are school-based. In addition, intervening at schools is relatively cost-efficient, as schools have the necessary facilities, as well as the human resources required for programme implementation. A study of international reviews of anti-bullying school-based interventions (e.g., Crothers & Kolbert, 2008; Rigby, 2004; Smith & Ananiadou, 2003; Smith, Schneider, Smith & Ananiadou, 2004; Vreeman & Carroll, 2007) revealed five types of interventions: curriculum, multi-disciplinary or “whole-school”, social skills training, mentoring, and social worker support.

2 Deviating from the group element of bullying and making it thus difficult to tackle, cyber-bullying is a predominately private, individualistic and anonymous activity; still cyber-bullying has been correlated with traditional bullying (Dehue et al., 2008).
Curriculum (classroom) interventions include anti-bullying lectures, presentations, discussions, written curriculum and videotapes. Curricula attempt to prevent or reduce bullying in the classroom by improving student attitudes, changing group norms, teaching adaptive social skills and increasing self-efficacy. Vreeman and Carroll (2007) conducted the first systematic review of school-based anti-bullying interventions. In this review, interventions had to be experimental, with control and intervention groups, as well as a follow-up evaluation with measured results. Twenty-six studies worldwide met the inclusion criteria; all of the studies applied the intervention to primary schools, whilst six of them also intervened in secondary schools. Results of classroom interventions were far from promising. Of the 10 curriculum interventions, six failed to significantly reduce bullying. Of the four that managed to reduce bullying, three also showed an increase in bullying and victimisation in certain populations. For example, Baldry and Farrington (2004) found a decrease in self-reported victimisation in older students (aged 14-16), but an increase in self-reported victimisation in younger students, whilst, overall, there was no statistically-significant difference in bullying or victimisation. In Teglasi and Rothman (2001), teachers reported reduced bullying for non-aggressive students, but increased bullying for students previously identified as aggressive, whilst student self-reports revealed no statistically significant intervention effects. Vreeman and Carroll (2007) found no overall statistically-significant reductions in direct bullying or victimisation measures in the curriculum interventions.

Whole-school interventions include a combination of methods involving the school at all levels, such as enforcing anti-bullying rules and specific sanctions for those breaking the rules, teacher training, classroom curricula, conflict resolution techniques, counselling, as well as providing educational material. Whole-school interventions are inspired by, and follow in the steps of, the Olweus Bullying Prevention Programme (Olweus, 1994), which was a highly successful anti-bullying intervention, implemented in Bergen, Norway. Compared with curriculum interventions, whole-school approaches have been more effective in reducing bullying (Vreeman & Carroll, 2007), but, by and large, evaluations have yielded mixed results. To elaborate, the dramatic success of the Olweus Programme has not been replicated outside of Norway (Smith et al., 2004) and in some cases its implementation has provided no decrease in bullying (e.g., Melton et al., 1998), or resulted in an increase in bullying and victimisation (e.g., Roland, 1993). Roland replicated the Olweus Bullying Prevention Programme in Rogaland, Norway, and found increased self-reported victimisation and social exclusion for boys, and increased self-reported bullying and victimisation for girls. Pepler, Craig, Ziegeler and Charach (1994) applied an intervention modelled after Olweus’, in Toronto, Canada, and found no statistically-significant changes in the proportion of children who had been bullied more than once or twice during school term, but a small reduction (about 5%) of bullying in children who had been bullied at least once in the previous week. At the same time, Pepler et al. (1994) found an increase in the proportion of students who reported bullying others more than once or twice a week, and during the last five days over 18 months. Similar ‘paradoxical’ results were found by Hanewinkel and Knaack (1997), who applied an intervention closely modelled after Olweus’, in Schleswig-Holstein, Germany.

In addition to the systematic review of Vreeman and Carroll (2007), we located a synthesis of the evaluation research of 24 whole-school interventions (Smith et al., 2004), in primary and secondary schools worldwide. Both Vreeman and Carroll (2007) and Smith et al. (2004) agree that, although the whole-school interventions fare much better than the curriculum ones, the majority of interventions yielded outcomes with no statistical significance on
measures of self-reported bullying and victimisation. Only a few programmes proved to be effective in reducing bullying and victimisation (i.e., Alsaker & Valkanover, 2001; Menesini, Codecasa, Benelli & Cowie, 2003; Metzler, Biglan, Rusby & Sprague, 2001; Olweus, 1993; Rahey & Craig, 2002; Twemlow et al., 2001).

Social skills training anti-bullying interventions include group activities, such as learning how to be effective speakers and listeners, building friendships, enhancing self-knowledge and empathy, resolving conflict without resorting to aggression, and improving social norms and attitudes. Vreeman and Carroll (2007) managed to locate four social skills training interventions, meeting their review criteria. Of these interventions, only the one carried out by De Rosier (2004) demonstrated statistically-significant reductions in self-reported bullying and victimisation.

A study by Bagley and Pritchard (1998) that assessed the effects of increasing the numbers of social workers in schools in the United Kingdom, found a significant decrease in self-reported bullying in primary schools, but an increase of bullying in secondary schools.

King, Vidourek, Davis and McClellan (2002) implemented and evaluated a primary school peer-mentoring programme for at-risk fourth graders. The programme emphasised relationship building, self-esteem enhancement, goal setting, and academic assistance. Data revealed that mentored students were less likely to report being involved in bullying, as compared with their non-mentored counterparts. Also, mentored students showed improved self-esteem levels, as well as improved connections to school, peers and family.

A literature search revealed only one South African, anti-bullying intervention (Meyer & Lesch, 2000), implemented at three schools, and targeting boys only. This intervention applied a social or behavioural skills modification programme, which, based on peer and self-reports, did not decrease bullying in any statistically-significant way. The authors put forth issues related to the conceptualisation of bullying behaviour, the effects of the socio-economic environment, and time-focused approach of the project, as factors impeding the programme’s success.

To conclude, anti-bullying programmes have yielded inconsistent, even paradoxical outcomes in terms of reducing bullying and victimisation. Some interventions have decreased bullying, others have had no effect, and some have increased bullying. Additionally, substantial inconsistencies are evidenced as a function of age: younger children seem to benefit less from curriculum and whole-school interventions, whereas older children benefit less from social-skills interventions. Although we have painted a somewhat bleak picture of the preventative efforts thus far, we do not suggest that they be abandoned altogether. Some of the interventions presented in this Chapter may have failed to reduce bullying, but they still improved other areas of functioning, such as group problem-solving (Elliot & Faupel, 1997), awareness of bullying and school rules (Alsaker & Valkanover, 2001; Mitchell, Palmer, Booth & Powell-Davies, 2000), academic achievement scores (Twemlow et al., 2001), social skills (De Rosier, 2004), and general well-being (King et al., 2002). However, if the existing anti-bullying interventions wish to continue to be labelled as such, they need to undergo (re)evaluation and be modified accordingly.

Comments on intervention
As revealed above, interventions have had only limited success in reducing bullying and victimisation (Smith & Ananiadou, 2003; Smith et al., 2004; Sutton et al., 1999; Rigby, 2002; Vreeman & Carroll,
In light of the findings from programme evaluations, only cautious recommendations can be made that anti-bullying interventions be continued in their current forms. Therefore, a commentary of possible reasons of the failure of some anti-bullying programmes is well warranted.

Most whole-school interventions have been modelled on the hugely successful Olweus Bullying Prevention Programme (also known as the Bergen Programme). There are several differences, however, between the Bergen Programme and the others. Firstly, the Bergen Programme was successful in Norwegian schools, which operates on very high quality standards (e.g., they have small, fully-equipped classes, highly-educated teachers, and function in a tradition that welcome the intervention of the government in social welfare issues). Moreover, the Bergen programme was implemented at a time when bullying was escalating in Norway, and a number of suicides linked to bullying and victimisation were reported (Smith et al., 2004). Parents, students, teachers and health officials were very motivated to make the programme work. Thus, the educational and historical context surrounding Olweus’ intervention was optimal, potentially ensuring its success. Years later, Roland’s (1989) replication of the Bergen Programme in another Norwegian city (Rogaland) was unsuccessful, and this may be linked to a changed historical setting.

Implementation issues have also been presented as factors contributing to the failure of some whole-school interventions (Smith & Ananiadou, 2003; Vreeman & Carroll, 2007). The possibility exists that Olweus created a unique intervention that, if altered, may not be effective. Subsequent interventions have substantially modified the original Bergen Programme, for the purpose of cultural relevance, possibly at the expense of intervention fidelity (Dane & Schneider, 1998). Additionally, the Olweus’ intervention does not come with a detailed manual, rendering it more difficult to replicate. Another factor that may underscore the observed paradoxical results is increased sensitisation following anti-bullying programmes. After an intervention, students are aware of what bullying entails and may report it more, rather than experience it more; similarly, decreases in victimisation may be too subtle to be measured. Age-related paradoxes in bullying interventions (i.e., younger students benefited more from social skills programmes, whereas older students benefited more from whole-school and curriculum), might suggest the need for age-specific interventions. This is consistent with findings viewing bullying as a developmental phenomenon, peaking at early adolescence (Flisher et al., 2006), and during the transition from primary to secondary school (Pellegrini & Long, 2002).

Implementation issues notwithstanding, we argue that theoretical and epistemological issues underscore the problems surrounding anti-bullying interventions. As already put forth, the aetiology of bullying has mostly been provided in terms of individual psychological factors, emphasising maladaptive personality traits and parenting practices. Personality and developmental theoretical perspectives have guided the development of, virtually, all interventions, thus targeting specific individuals and changing individual bullying behaviours and attitudes. Although there is no doubt that personality or family characteristics impact bullying, aiming to address or modify such factors in schools, may be futile, because once established, personality traits are notoriously resistant to change (Eyesenck, 1983; Rigby, 2004) and nothing can be done about parenting. Moreover, doubts have been cast (e.g., Sutton et al., 1999) over the widespread assumption of bullies being deficient in intellectual, emotional and social skills, such as theory of mind, self-esteem, assessing group dynamics, etc. Consequently, interventions that emphasise the building of intellectual skills and understanding others, may, in fact, be to the advantage of the
bully (Sutton et al., 1999). Thus, a main reason for the limited success of anti-bullying interventions, in general, may be the person-centred approach of changing the ‘individual’. Despite the use of person-centred strategies, the whole-school approach has fared better than the rest, probably because it also aims to modify the entire school environment and philosophy. In addition to individual characteristics, whole-school interventions view bullying as influenced by external factors, such as group interaction. This is why we are surprised to see that a whole body of social psychological research, which traditionally investigates inter-group conflict, has been downplayed. To elaborate, studies applying the SIT (e.g., Turner & Reynolds, 2001; Tajfel & Turner, 1979) and the contact hypothesis model (Pettigrew, 1998; Pettigrew & Tropp, 2000) to inter-group processes have provided valuable data regarding the factors that give birth and sustain group bias and conflict. A mass of research findings (e.g., Brewer & Gaertner, 2001; Gaertner & Dovidio, 2000; Hewstone, 1996; Pettigrew 1998) suggests that a reduction of inter-group bias and conflict can be accomplished through increasing of the quantity and quality of inter-group contact. The moderating mechanism underlying intergroup contact, is known as “categorisation”. Categorisation (Pettigrew, 1998) is a fundamental cognitive process, whereby people organise their social world on the basis of categorical distinctions, transforming continuous variables into discrete ones. Categorisation minimises perceived differences within categories and maximises differences across categories. Because people are always members of some social categories and not others, categorisation includes implicit in-group versus out-group (we versus they) distinctions. We will now briefly outline how eliminating, or modifying, categorisation can improve inter-group relationships; for a review, however, see Hewstone, Rubin and Willis (2002). Bias can be reduced or removed by a de-categorisation process, which is moving former in-group members, once individuated, towards out-group members, thus removing in-group favouritism as the source of bias (Brewer, 1999). An example of this would be reducing bias through fostering out-group friendships, as demonstrated by Pettigrew (1997) and Phinney, Ferguson and Tate (1997). Bias can be further reduced by improving attitudes towards former out-group members, owing to their re-categorisation from out-, to in-group. As a result, intergroup relations are likely to improve by self-disclosing interactions with former out-group members, which results in more differentiated impressions of them (Dovidio, Kawakami, Johnson, Johnson & Howard, 1997; Gaertner & Dovidio 2000). Some out-groups, however, tend to have very strong identities (e.g., ethnic minorities) that they wish to keep distinct, and may therefore resist assimilation to a super-ordinate out-group; assimilation, in this case, is perceived as a threat to lose what makes the group special (Van Oudenhoven, Groenewoud & Hewstone, 1996). Another categorisation strategy, therefore, consists of maintaining group boundaries and distinct roles, whilst cooperating (Dovidio, Gaertner & Validzic, 1998); in this case, more favourable attitudes are established when contact occurs with a typical out-group member and/or references to nationality or culture are frequent during contact (Brown, Maras, Masser, Vivian & Hewstone, 2001; Brown, Vivian & Hewstone, 1999). A final categorisation strategy aims to foster a dual group identity (Horney & Hogg, 2000) to groups who share a super-ordinate category, as is usually the case. For example, Gaertner, Rust, Dovidio, Bachman and Anastasio (1994) found less bias in a multi-ethnic high school when students were trained to perceive themselves in terms of different ethnic sub-groups, but still “all playing for the same team” (i.e., the school), and when students identified themselves at both subgroup (i.e. ethnic group) and at super-ordinate (i.e., Americans) level.

Whilst no anti-bullying interventions that we know of have used social-psychological data, such as
the above, we believe that including some type of categorisation strategies could prove beneficial. In the following Box we summarise elements of successful anti-bullying strategies, based on the data presented in this Chapter.

### Anti-bullying strategies need to:

- Have a sound theoretical basis.
- Acknowledge the complexity of aetiological factors by addressing psychological, contextual, and socio-cognitive processes.
- Modify group processes; not the individual.
- Carefully foster cooperative activities between bullies and victims, reducing, thus, biases and enhancing familiarity/friendship.
- Come with a manual.
- Clearly describe the nature of bullying to the whole school population, with the expectation of non-perpetration.
- Include a sanctions element only if sanctions are consistently and reliably applied.
- Be evaluated for effectiveness and flexible to necessary adaptations.

### South African policies addressing bullying

Although a South African national policy specific to school bullying (or school violence) does not exist, there are some policies related to youth well-being, in general, wherein violence reduction can be an indirect outcome (Department of Health, 2001). For example, the Child Care Act includes a reporting system requiring any type of child abuse to be reported to the police and, or, child welfare officials (Human Rights Watch, 2001). The South African Schools Act of 1996 demands that students found guilty of serious misconduct be suspended or expelled from the school. Additionally, the Department of Education revised the curriculum in 2006, by introducing new content and teaching methods that aim, amongst other things, to improve student-student and student-teacher interaction (Department of Education, 2007). The National Programme of Action for Children is responsible for integrating all policies by all governmental departments and non-government group organisations (NGOs).

### Key messages

- Bullying consists of repetitive, direct and indirect, acts of aggression: hitting, kicking, biting, scratching, name-calling, gossiping, ignoring, shunning, threatening.
- Bullying stems from a combination of psychological, social and cognitive factors.
- Bullying is a worldwide phenomenon, with reported prevalence rates ranging from 5% to 61%.
- Anybody can potentially be a bully or a victim, regardless of culture and socio-economic standing.
- Interventions are mostly successful when they involve the whole school and promote goal-oriented cooperative activities.

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TOWARDS SAFER SCHOOLS

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ABSTRACT
This Chapter focuses on the challenge of developing safe schools in South Africa, with a particular focus on intentional injury and, therefore, violence prevention in the school setting. The Chapter commences with a snapshot of child and youth violence, more specifically, school violence. The discussion then moves onto an overview of violence prevention in and through schools, drawing on international lessons and recent South African recommendations. Specific strategies believed to be useful in schools are highlighted and briefly discussed. The latter section acts as a springboard for looking at some safe school initiatives that have been developed in South Africa. The Chapter concludes with a summary of key messages relating to building safe schools, followed by recommendations for a way forward to developing safer schools in South Africa. These recommendations focus on adopting a comprehensive approach, addressing wider societal and community factors, ensuring physical safety, developing positive school-community relationships, providing extra-mural programmes, developing a supportive and safe school culture, enforcing discipline, enriching life skills education, and developing and accessing education support services.

Keywords: schools, violence prevention, safety promotion, safe schools

INTRODUCTION
This Chapter focuses on the challenge of developing safe schools in South Africa. This discussion must be held in the context of the book’s overall focus on enabling child safety through prevention and safety promotion. Although mention is made of all forms of unintentional and intentional injury, the primary focus is on intentional injury and thus, violence prevention. General youth violence, as well as the specific phenomenon of school violence, constitutes the key challenges being addressed in this discussion.

The development of this Chapter has drawn on key international reports and South African literature on youth and school violence. A systematic literature review was not attempted. Where appropriate, the research and practical expertise of the authors were also drawn on, particularly for the purposes of developing a framework for developing safer schools. The Chapter provides:

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Towards Safer Schools

Terms and definitions

This Chapter focuses on children and youth at primary and secondary schools. While the World Health Organization (WHO)’s World Report on Child Injury Prevention (Peden et al., 2008, p. xv) notes that “there is no universally agreed age range for what constitutes children – a concept that varies considerably across cultures”, this Chapter adopts the definition contained in Article 1 of The Convention on the Rights of the Child: “every human being below the age of eighteen years unless, under the law applicable to the child, majority is attained earlier” (Pinheiro, 2006, p. 6). However, it should be noted that the definition of youth (Krug, Dahlberg, Mercy, Zwi & Lozano, 2002) includes people between the ages of 20 and 29, and that, in South African schools, it is not unusual to find youth aged 20 years and over attending high school.

The WHO (Krug et al., 2002, p. 5) defines violence as “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation”. Violent acts include physical, sexual, psychological, and acts involving deprivation or neglect. The types of violence identified by Krug et al. (2002) include self-directed, interpersonal violence, and collective violence. These authors distinguish between two main elements of interpersonal violence: family and intimate partner violence, and community violence. School violence, which constitutes a focus for this Chapter, is located within the category of community violence.

Within the context of interpersonal violence specifically, Sethi, Marais, Seedat, Nurse and Butchart (2004) refer to violence prevention programmes as preventive activities or projects that are designed to reduce the level of violence. This involves intervening to eliminate or reduce the underlying risk factors and building on protective factors. Safety promotion refers to processes that aim to ensure the presence and maintenance of conditions that are necessary to reach and sustain an optimal level of safety (Welander, Svanstrom & Ekman, 2004), focusing on both structural and behavioural changes in order to create safe and supportive environments. Peace promotion includes the processes of peace-keeping, peace-making and peace-building. Peace-making is directed at reducing the occurrence and intensity of direct violence; peace-making advances methods to encourage positive and nonviolent relations; and peace-building addresses structural violence created through social domination, political oppression and economic exploitation of individuals and groups (Christie, Wagner & Winter, 2001; Suffla, 2004).

a. An overview of school violence, drawing on key international documents and recent local analyses of this phenomenon.
b. A discussion which focuses on violence prevention in and through schools, drawing on international lessons and recent South African recommendations.
c. Specific strategies which are believed to be useful in schools.
d. International and South African models of health promotion, and in particular, the development of Health Promoting Schools, with the latter section acting as a springboard for looking at some safe school initiatives that have been developed in South Africa.
e. Recommendations for a way forward to developing safer schools in South Africa.

CHILD AND YOUTH VIOLENCE: PREVALENCE AND DETERMINANTS

Statistics from the WHO’s World Report on Violence and Health (Krug et al., 2002) reveal that the main victims and perpetrators of violence, almost everywhere, are adolescents and young adults, with males being the most vulnerable. This includes fatal, as well as non-fatal violence. Building on the research conducted for the World Report on Violence and Health, the UN Secretary-General’s Study on Violence Against Children (Pinheiro, 2006) provides a global picture of violence against children within the family, schools, alternative care institutions and detention facilities, places where children work, and communities. This report highlights the grave and urgent nature of this global problem, noting that the majority of violent acts are perpetrated by people
who are part of children’s lives, including parents, schoolmates, teachers, employers, boyfriends or girlfriends, spouses and partners. This report notes that the rate of homicide of children in 2002 was twice as high in low-income countries, and that boys, aged 15-17, are generally most at risk.

Although the emphasis in this Chapter is not on unintentional injuries, it is important to note that unintentional or accidental injuries account for almost 90% of the global deaths to those younger than 18 years, and that this burden of injury is particularly high for children who live in poverty (Peden et al., 2008). Once again, boys are at highest risk for all, except fire-related burn injuries.

In South Africa, problems of violence amongst, and affecting, the youth are of deep social concern (Lazarus, Tonsing, Ratele & Van Niekerk, 2009; Parker, Dawes & Farr, 2004). Research has also highlighted that boys and young men in South Africa are particularly vulnerable to becoming both victims and perpetrators of violence, with the ages of 15-29 being a particularly high-risk group (Donson, 2008; Krug et al., 2002).

Reasons for different kinds of violence are often linked to particular risk factors which some authors (e.g., Krug et al., 2002; Lazarus et al., 2009; Sethi et al., 2004) categorise under the various levels of the system: individual, relationship, community and societal factors. The World Report on Violence and Health (Krug et al., 2002) highlights that problem behaviour tends to begin early in a child’s life, with continuity in aggressive behaviour being evident from adolescence to adulthood. This relates to the existence of life course persistent developmental pathways.

Krug et al. (2002) and Pinheiro (2006) identify a number of risk factors relating to youth violence. At the individual level, these include biological as well as various psychological and behavioural characteristics. Relationship factors include family influences relating to parental behaviour and the family environment. This includes poor monitoring and supervision of children, the use of harsh physical punishment to discipline children, parental conflict, poor attachment and family cohesion, family structure, low socio-economic status and education levels. Peer influences also play a role, with delinquency and drug use being primary factors linked to youth violence.

At the community level, dense urban contexts with low standards of housing, and high levels of crime are key situational factors. The presence of gangs and the accessibility of guns as well as drugs and alcohol feed into this. Another major factor at this level is social disintegration, exacerbated by a lack of social amenities. Societal factors that are implicated in youth violence include globalisation, armed conflict, rapid social changes, income inequality, unemployment, and cultural influences. The lack of adequate law enforcement and therefore safety protection is a major factor, while cultural factors can also affect the amount of violence in a society, for example, by promoting harmful cultural practices, and by endorsing violence as a normal method to resolve conflicts, often perpetuated through the media.

In a recent literature study, Lazarus et al. (2009), noted that, for boys, many of the factors listed above link to masculinity and masculine identity. Good, Heppner, Hillenbrand-Gunn and Wang (1995) refer to masculinity as a set of beliefs and expectations about what men should and should not do. This relates to the concept of social identity, and more specifically, the socio-cultural construction of manhood.

SCHOOL VIOLENCE IN SOUTH AFRICA
A survey conducted by the Medical Research Council in South Africa found that, at a national level, 34% of Grade 9 learners felt unsafe in schools (Medical
Research Council, 2003). With regard to physical violence, the prevalence amongst Grade 9s was 34%. Twelve percent of them reported carrying a weapon, and 9% admitted to carrying a gun over the past 30 days. Sixteen percent of the same learners reported having been threatened or injured at least once on school property over the past six months. Forty-five percent of them reported having been exposed to bullying over the past six months, while 13% reported that they held gang membership. Fourteen percent of Grade 9 learners nationally reported physical violence from their partners over a six-month period.

These findings are supported by Johnson’s (2005) study, involving 472 Grade 9 learners in schools in the Western Cape. Almost half of the learners surveyed reported that they had experienced some form of verbal harassment over the past year. With regard to physical violence, 34% of learners reported being pushed, shoved or hit at least once on school property over the past 12 months. Twenty-five percent were afraid of being beaten up, and 24% had been in a physical fight. Thirty-nine percent of learners reported that they had something stolen or damaged over the past year, while 27% admitted to having damaged school property on purpose. Nine percent of learners admitted to carrying a gun on one or more occasions over the past year on school property; 16% admitted to carrying any other weapon one or more times over the past year; and 7% admitted to carrying any weapon one or more times to school over the past month. An average of 43% of learners reported having seen someone at least once with a weapon on school property during the past 12 months, and 10% reported having being threatened or injured at least once on school property over the past year.

This study (Johnson, 2005) revealed that while both girls and boys were experiencing bullying and harassment, boys were at greater risk than girls, as boys were more involved in physical fighting and more likely to carry weapons to school. Upon closer examination of the findings, it was found that safety was often related to socio-economic circumstances as the learners most at risk were learners who belonged to historically disadvantaged schools. Learners from impoverished backgrounds were also more likely to report relationship violence.

Recent research conducted by the Centre for Justice and Crime Prevention (CJCP) highlights that “Violence within schools is not a new social problem but is emerging as a cause for serious concern given the recent spate of attacks within South African schools that have claimed the lives of both pupils and educators” (Leoshut, 2008, p. 1). Burton’s (2008b) snapshot of the Centre for Justice and Crime Prevention’s National Schools Violence Study reports that schools are places where children are at greatest risk of experiencing a range of crimes, including violent crime. This survey revealed that, at both primary and secondary school levels, learners are at high risk of falling victim to some form of violence. Burton reports that males are particularly vulnerable in this area.

According to the above-mentioned study (Burton, 2008b), classrooms, toilets and open grounds are the highest risk areas in school settings. The most common perpetrators of this violence are fellow classmates and peers, although educators also inflict harm, primarily through corporal punishment. Alcohol and drugs, as well as weapons such as knives, are easily accessible to learners at both primary and secondary schools. The study also shows a strong correlation between experiences at school and the environment to which learners are exposed to outside of this setting. Many children are exposed to various forms of violence, anti-social behaviour and illegal activities, with many reporting on illegal drug use in their own families.
In addition to reporting on the general statistics emerging from the National Schools Violence Study of the CJCP, in another paper, Burton (2008a) notes that it is not only learners who are the victims. Reports show that up to three in five secondary schools have received reports of learner-on-educator verbal abuse, one in four secondary schools have received reports of learner-on-educator physical violence, and 2.4% of schools have received reports of learners sexually assaulting educators.

VIOLENCE PREVENTION IN SCHOOLS

The World Report on Violence and Health (Krug et al., 2002) notes that individual cognitive, social and behavioural factors and social systems that shape these factors need to be addressed when trying to prevent violence. A number of prevention approaches are identified in this report. At the individual level, the focus should be on individual skills, attitudes and beliefs, with preschool enrichment programmes being identified as an important area of focus. The most frequent strategies carried out in school settings include managing anger, modifying behaviour, adopting a social perspective, moral development, building social skills, solving social problems, and resolving conflicts. Relationship approaches to violence prevention with youth include home visitations, training in parenting, mentoring programmes, and therapeutic approaches such as family interventions. Home-school partnership programmes to promote parent involvement, as well as compensatory education such as adult tutoring, have also been identified as being promising.

Interventions addressing community factors include community policing, controlling the availability of alcohol, providing extracurricular activities, and suppressing gang violence. Strategies within school settings also include providing a physically safe environment, increasing security (e.g., installing metal detectors or surveillance cameras), providing child-care facilities, improving school policies and rules, changing teaching practices and classroom management strategies, and creating safe routes for children travelling to and from school. The provision of effective health care or support services for those who need extra support is also an important area of focus. Societal approaches to violence prevention for youth focuses on reducing economic or social barriers to development.

The UN Study on Violence against Children (Pinheiro, 2006) makes recommendations relating specifically to schools and other education settings. This includes that such settings should be “safe and child friendly and curricula should be rights based, and that schools provide an environment in which attitudes that condone violence can be changed and non-violent values and behaviour learnt” (Pinheiro, 2006, p. 28). Recommendations include:

- The development of codes of conduct.
- The use of non-violent teaching and learning strategies and disciplinary measures.
- Encouraging non-violent approaches to conflict resolution, implementing anti-bullying policies, and promoting respect for all members of the school community.

The World Report on Child Injury Prevention (Peden et al., 2008) identifies the following areas of injury prevention relating to the school context as being the most successful: integrating relevant aspects of the proposed child injury prevention policy and plans of action into education policies and guidelines; implementing these guidelines; strengthening the health system (including the education support system in the school context) to address child injuries; conducting epidemiological and intervention research in schools; and raising awareness of child injury prevention (through staff development, life skills education, as well as parent and community education). Teachers and community leaders are identified as central in many of these strategies.
In South Africa, Burton (2008b) argues for a multi-sectoral approach to dealing with school violence, including parents, homes and the community, as well as various government departments. Burton (2008b, p. 4) argues that “schools can serve as a focal point for communities. Safe schools can serve as important mechanisms for mediating wider exposure to violence... Safe schools can also go some way towards developing pro-social behaviour and a positive affective state among children”.

Burton (2008a) promotes a whole school approach to dealing with violence. This includes identifying places where learners feel unsafe and formulating plans of action to develop an environmentally-friendly school environment. This also includes fostering attachment to schools and learning. This relates to the concept of school connectedness, identified as an important area of protection by many (Johnson, 2005; Johnson & Lazarus, 2008; Lazarus et al., 2009). Burton (2008a) also argues that effective school and classroom management requires a clear policy framework and a code of conduct for learners. Teachers need clear alternatives to corporal punishment, including conflict resolution skills.

Burton (2008a) also argues strongly for afterschool programmes, with a focus on the development of positive life skills, as well as providing extra-mural activities. He also suggests that school governing bodies and other members of the school community should lobby and mobilise local role players and stakeholders to address community and broader societal issues such as basic socio-economic conditions.

Donald, Lazarus and Lolwana (2010) also provide some detailed recommendations for addressing violence in the school, focusing on the classroom, the curriculum, the school, and local support services:

- In the classroom the role of teachers as role models is emphasised. With regard to dealing with conflict, the authors note that while general conflict management skills will help, the situation may call for additional strategies which include punishment or seeking additional help.
- With regard to the curriculum, Donald et al. (2010) argue that students can be protected from violence through the inclusion of life skills education focusing on interpersonal skills, conflict and anger management skills, communication skills, gender role clarification and sensitisation, and the promotion of positive masculinities through the life orientation programme.
- In the school, school policies need to promote safety and strategies and programmes that address or prevent violence in the school context may need to be developed (Donald et al., 2010).
- The school’s own support team, with the help of the district support team, should play a role in supporting teachers, students and parents/caregivers when they are victims, or perpetrators of violence.

**SOUTH AFRICAN LEGISLATION AND POLICIES**

An important component of any violence prevention or safety promotion programme is the existence of enabling legislation. In addition to the international frameworks referred to previously in this Chapter, there are some important policies and legislation that can support violence prevention in schools. Some of these are listed in the Boxes to follow.

**BUILDING SAFE SCHOOLS**

In this section, we will look specifically at the health promoting schools movement in South Africa (Department of Health [DoH], 2000), as well as the development of the Safe Schools programme in the Western Cape. Some other recent initiatives relevant to the development of safer schools in this context will then be briefly outlined.
Developing health promoting schools in South Africa

The development of the Health Promoting Schools network in the Western Cape province and elsewhere in South Africa has to a lesser or greater extent informed the development of programmes aimed at developing safe schools. Frameworks that focus on whole school development have also played in role in this (e.g., Davidoff & Lazarus, 2002).

The health promoting schools approach has developed from the broader health promotion framework (Ottawa Charter, WHO, 1986) which has identified schools as a key setting for health promotion (Jakarta Declaration, WHO, 1997). The National Guidelines for the Development of Health Promoting Schools/Sites in South Africa (DoH, 2000) provides details on this approach in the South African context.

Donald et al. (2010) relate the five strategies of the Ottawa Charter specifically to schools, arguing

<table>
<thead>
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<tr>
<td>South African legislative framework and other mandates relating to building safe schools in South Africa (Western Cape Education Department, 2003):</td>
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<tr>
<td>- Constitution of South Africa (Act 108 of 1996)</td>
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<tr>
<td>- Criminal Procedures Second Amendment Act (Act 85/1997)</td>
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<td>- Employment of Educators Act (EEA) (Act 76/1998)</td>
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<td>- Firearms Control Act (Act 60/2000)</td>
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<td>- Government Gazette 22754, 2001: Notice 1040</td>
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<td>- Compensation for Occupational Injuries and Diseases Act (COIDA) (Act181/1993)</td>
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<tr>
<td>- South African Schools Act (SASA) (Act 84/1996)</td>
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<td>- Child Justice Act (2009)</td>
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<th>South African policies</th>
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<tr>
<td>Education White Paper 6 on Building an Inclusive Education System (Department of Education [DoE], 2001):</td>
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<td>Although this policy paper does not focus on violence prevention per se, its focus is on developing a supportive and safe environment for teachers, learners and parents. It is informed by a rights-based value system which emphasises the need to address barriers to learning (found at all levels of the system) in order to ensure both social and academic inclusion of all learners in the curriculum and school context. A major emphasis in this policy is on strengthening the education support services that operate primarily at the level of districts. One of the key roles of these district support teams is to build the capacity of local school support teams to identify and address barriers to learning. This includes addressing any form of violence in and around the school community.</td>
</tr>
<tr>
<td>National Curriculum Statement: Life Orientation and Life Skills Education:</td>
</tr>
<tr>
<td>The South African National Curriculum includes various Learning Areas, with Life Orientation being one of the compulsory areas included at all levels of schooling. Life Orientation aims to equip learners for meaningful living in a changing society: in other words, for the development of the self in society. Specifically, it aims to provide opportunities for learners to: understand themselves; develop skills and attitudes to improve their social relationships; develop respect for other peoples’ beliefs and values; respect the human rights of all; develop life and decision-making skills; assess career and other opportunities, and set and pursue goals in relation to their potential; learn values and attitudes needed for a healthy and balanced lifestyle; and participate in human movement and development. The core Learning Outcomes for Life Orientation are health promotion, social development, personal development, physical development and movement, and orientation to the world of work (DoE, 2002; Rooth, 2005, cited in Donald et al., 2010).</td>
</tr>
</tbody>
</table>
that these five areas need to guide whole school development. The five areas are:

- Building school policies that support well-being.
- Creating supportive environments for teaching and learning.
- Strengthening community participation in the school.
- Developing personal skills of members of the school.
- Providing access to and co-ordinating support services (which provide curative and preventative help with identifying, understanding, and addressing barriers to learning).

These support services from within the school (school support teams) and outside the school (district support teams and other community resources) need to be co-ordinated and made accessible to all who need them. Donald et al. (2010) place a strong emphasis on the need for strong school-community partnerships. Internationally, there is evidence that the constructive involvement of parents/caregivers greatly benefits the school, the students, the parents/caregivers themselves, and their mutual relationships. The need to develop strong school-community relations is also emphasised in many of the policy documents in South Africa (e.g., DoE, 1996, 2001, 2005; DoH, 2000). In addition to the various ways in which members of the community can support their schools, a school can also support its community in many ways.

According to Lee (2004) and Lee, Cheng, Fung and St Leger (2006), the health promoting school strategy promotes self-esteem of students; contributes to staff development; provides parental education; encourages involvement of the whole school community and linkage with different stakeholders; and, in general, enhances positive youth development. It also has the potential to shift the paradigm from handling crises to prevention approaches emphasising youth support before problem behaviour occurs.

The relationship between the development of health promoting schools and resilience has been a particular focus for study in recent times. For example, Youngblade et al. (2007) found that youth who were involved in contexts that provide positive resources from important others (including schools) not only were less likely to exhibit negative outcomes but were also more likely to show evidence of positive development. More recently, Wong et al. (2009) found that in secondary schools that adopted a health promoting schools approach, students and teachers reported significantly higher resilience scores than those schools not pursuing this approach. The authors concluded that the concept of a health promoting school is effective in building resilience among major school stakeholders. The health promoting schools strategy also helps to facilitate school connectedness which has been proven to be the strongest factor in turning youth around from at-risk to resilient individuals (Johnson & Lazarus, 2008).

The Safe Schools Programme

One programme that has been particularly active in the Western Cape has come from the Western Cape Education Department’s (WCED) Safe Schools Division (WCED, 2003, 2009). This Division has a vision of “safe learning institutions for all”, with a mission that states: “The Division Safe Schools strives to create centres of excellence with strong community links, quality learning and teaching and effective management and governance, and, in so doing, combat the root causes of crime and violence” (WCED, 2009).

The Safe Schools Division has a three-pronged strategy for creating safe school environments conducive to teaching and learning (WCED, 2003, 2009). This includes:
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- Crime control (changing the physical environment of each school to create a safe environment).
- Crime prevention (working within the school environment to equip learners, parents and educators with skills relating to learner behaviour, conflict resolution and diversity).
- Systemic partnerships (including mobilising communities, government and civil society to address school violence through an integrated holistic approach).

The three-pronged strategy is integrated into six programme areas already being pursued within the WCED. These programmes focus on:

- Enhancing crime control infrastructure.
- Enhancing school safety management systems.
- Ensuring appropriate law enforcement.
- Integrating school safety within community based crime prevention programmes.
- Building cohesive school community cultures
- Substance abuse programmes.

The Safe Schools Division has developed safety structures for schools to support and encourage safety. This includes school safety committees, safety resource officers, learner support officers, and a Safe School Call Centre. The Safe School Call Centre opened in March 2000 in response to learners’, parents’ and educators’ needs for immediate communication around safety, crime and abuse, as well as a variety of other school-related issues. The Centre also serves as a coordinating centre where referrals are made to appropriate agencies, and from which vital information is disseminated to relevant parties. Specific areas that are commonly addressed through this service are emergency or crisis calls (including gang violence and trauma as a result of incidents of violence or serious injury); school crime (including substance abuse, property-related crime, and physical assault); abuse (including physical or emotional abuse, child neglect, sexual abuse and rape, sexual harassment, corporal punishment, substance abuse, or racial discrimination); and general queries around various issues (including teenage pregnancies and abortion, HIV and AIDS, and general educational matters). The service providers used for this service includes staff employed in the division as well as non-governmental, community-based and faith-based organisations, and specific professionals, when needed.

Nariman Khan, who is the Director of this initiative, has recently reported on a review being conducted to examine whether schools are managing their existing security resources effectively in the Western Cape (Cape Argus, 27 August, p. 10). She noted that although schools are being provided with safety devices (e.g., alarm systems, safety gates, mesh wire, CCTV cameras), they are not necessarily being used effectively. Khan highlighted the need to include safety volunteers to assist in the after-school hours. She also highlighted the need for safety plans “which should take the school’s circumstances and specific safety issues into consideration”. Schools are also encouraged to work with communities and organisations such as neighbourhood watches, as well as the local police.

Other South African initiatives

The DoE and the Open Society Foundation of Southern Africa (OSF-SA) conducted a study which resulted in the development of pilot interventions in schools in the Eastern Cape, Western Cape and Limpopo provinces. The Centre for Justice and Crime Prevention designed an approach targeted at the school management team. This was called the Hlayiseka Project which “assists schools to identify and deal proactively with issues of crime and violence through consultation, effective reporting and feedback systems” (Khan, 2008, p. 3). Principles underlying the Hlayiseka Early Warning System include effective democratic school management
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and an inclusive environment where learners feel that they belong. The Early Warning System is built on four building blocks: be prepared to prevent and manage problems, be aware of what is happening at school, take action when something happens, and take care to build a caring school. The toolkit that is provided in this project helps the school to understand and identify security issues and threats; guides schools to respond effectively to security issues and threats; establishes reporting systems and manages reported incidents appropriately; monitors the school’s progress over time; and integrates existing policy and legislation to ensure that school safety is not an add-on. The toolkit comprises a diagnostic tool, learner and educator surveys, a guide for developing safety plans (within the context of partnerships), a system for reporting and recording incidents of violence, developing mechanisms for reporting, and a simple guide for monitoring and evaluation (Khan, 2008).

The Child and Violence Programme of the Trauma Centre, which has been running for about 10 years, aims to reduce levels of aggression at schools and in communities, as well as increase healthy behaviour (Cape Argus, 27 August, 2009, p. 13). The work is curative and preventative and covers not only pupils, but also parents and teachers. The programme approaches the issue of school violence in a holistic manner. Using individual and group strategies, school interventions with staff used in this programme include meditation sessions, self-reflection, learning problem-solving techniques, learning to talk softly to children, and trauma awareness training. Other programmes include anti-bullying projects, the development of social skills groups (for assertiveness training and anger management), parent support groups, themed talks and workshops, and parent effectiveness training.

Finally, the Centre for Scientific and Industrial Research’s Crime Prevention Group has recently initiated a community-wide crime prevention initiative, launched in Nyanga in September 2009 (Cape Argus, 15 September, 2009, p.1). Various high risk areas in the Western Cape have been identified for this programme, with key risk factors including child abuse and neglect, alcohol abuse, illegal liquor outlets, and drugs (especially Tik [methamphetamine]), the proliferation of guns, domestic violence, robbery, burglary, taxi violence, unsafe public transport, unkempt open spaces, unemployment and children in conflict with the law. This initiative contains 48 objectives and a comprehensive plan to cover various programmes, including schooling. This programme is an example of a comprehensive strategy aimed at building safe schools within the context of general community safety promotion.

CONCLUSION

Drawing on literature and experiences from South Africa, the key messages summarises the main lessons learnt around building safer schools.

Recommendations for interventions and further research in South Africa include the following:

- **Pursue a comprehensive approach**: When developing programmes to address school violence, it is useful to consider the ecological framework which locates strategies at individual, relationship, community and societal levels. It is also important to identify and work with all relevant stakeholders to develop collaborative and/or coordinated strategies. This systemic approach does, however, require a think globally, act locally approach that works with priorities and limits one’s own contribution to realistic parameters.

- **Address wider societal and community factors**: Although schools have to focus on their primary responsibility of teaching and learning, it is important that at the local
and national level there is an acceptance of the need to prioritise programmes that focus on economic inequalities, poverty, unemployment, and lack of housing. Schools can contribute to these programmes in various ways, both directly and indirectly.

**Key messages**

- A comprehensive approach that addresses all relevant aspects of the system needs to be adopted in any violence prevention or safety promotion programme and for schools. This includes focusing on both individual behaviour and environmental factors.
- The wider societal and community risk and protective factors need to be addressed as they spill over into schools (e.g., gang violence).
- Physical security needs to be ensured in and around schools that are located within communities that have high levels of crime and violence.
- The development of positive school-community relationships is an important protective factor in violence prevention. Developing partnerships to build safer schools, with parents and other role players, is therefore important. Home visits and parent interventions (e.g., parenting skills development) are important aspects of this.
- Extramural programmes, including afterschool programmes, have been found to be successful in providing positive alternatives for children and youth, particularly in high risk communities.
- Schools can be places of safety for teachers and learners. School connectedness (attachment) has been identified as an important area of protection. This relates to the development of a school culture which negates violence and other negative social behaviour, and promotes safety and peace through various strategies aimed at developing pro-social norms and values. The role of leadership and management in the school is central to this.
- Positive forms of discipline in the school and classroom are central to the development of safe schools. This links to the school culture as a whole, but specifically to the role of the teacher in the classroom.
- Including personal and interpersonal life skills in the curriculum can help to promote safe behaviour. This includes anger management and conflict resolution skills.
- Schools should have access to external help if they need it, particularly where violence has occurred in the school.

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- **Ensure physical security**: Although the need to provide physical safety mechanisms (alarms, cameras, high gates and so on) is undoubtedly valid in high-risk communities, schools and their local communities should see these as short- to medium-term strategies within longer-term action plans that aim to build safe communities.
- **Develop positive school-community relationships**: Although current legislation supports the development of strong relationships between parents/local communities and their schools, various factors act against this. It is important, therefore, for schools to examine how they can foster closer and stronger relationships with the learners’ caregivers (many children do not have parents or they are unavailable) for the purpose of developing a mutually beneficial partnership to support the well-being and development of the young people in their community. Finding ways to support learners’ home environments (e.g., through home visitations) should be included in such a programme, although this has to be located within the limitations of a teacher’s role and job. Social workers and other relevant personnel from the DSD and DoH need to be brought closer to the schools in this regard.
- **Provide extramural programmes**: All schools in South Africa should ensure that they provide an extramural programme, drawing on their own staff and members of the community to provide projects and programmes for the children and youth in the afternoons and weekends. Transport to and from school will have to be made safe to ensure that such programmes are possible.
- **Develop a supportive and safe school culture**: All strategies used to develop norms and values in the school context should focus on developing a school culture that is supportive
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(thereby promoting school connectedness) and safe. This includes having policies of zero-tolerance for any behaviours that harm another person; school leaders and other teachers acting as role models of self-respect and respect for others; overtly supporting egalitarian gender relations in the school (through behaviour and structural interventions); developing school and classroom disciplinary codes of conduct that are strict but warm in their approach; including values clarification in the life skills education programmes; providing young people (especially boys) with opportunities to develop and undergo rites of passage rituals that help them to move from child/youth to adulthood in a positive way; and rewarding any individual or collective activities that foster pride and a sense of community in the school.

- **Enforce discipline:** In the context of corporal punishment being illegal, schools (with the help of the education administrators and support staff) must find positive alternatives to ensure discipline in the school. The concept of democracy has to be deconstructed to address the popular belief that authority (not authoritarianism) is not legitimate in the classroom and school. A balance between structure and freedom is needed for both teachers and learners to operate effectively. Strategies to develop constructive authority in the schools need to be developed and pursued therefore.

- **Utilise and strengthen the life skills education curriculum:** The South African curriculum has already identified this area as a compulsory part of all learners’ education, from Grade R right though to Grade 12. Safety promotion programmes should not add on to, but rather use the existing curriculum to ensure that violence prevention is pursued in these programmes. The life skills areas identified in the research on violence in schools is already integrated into this curriculum. It may be useful, however, to highlight these aspects, particularly in schools located within high risk areas, and for professional and community members who have their expertise to offer their services to the local schools.

- **Utilise and strengthen the education support services:** The various professionals located at the district support services are mandated to provide both preventative and curative interventions to support the schools in their area. However, the staff in these structures is not always adequately prepared to provide all the support required by the schools, including safety promotion, or dealing with violence when it occurs. Training in safety promotion should therefore be included in the current capacity building programmes for these district personnel – at least for some of them. Schools need to be able to call on help when faced with violence in their schools, and, besides the police, the district support structures are often their first port of call.

The above recommendations constitute some of our thoughts on key areas that need to be addressed, if we are to build safer schools in South Africa.

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Gangs and Child Safety

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ABSTRACT
Children involved in gangs are both more likely to injure others and to fall victim to violence. Prevention aims to prevent them from gang involvement in the first place, or to disengage them from the gang if they are involved. Suppression interventions seek to suppress gang activity and thereby, to prevent violence and injury. Early prevention is cheaper and easier than disengagement or suppression operations, since the latter are far more labour intensive. Successful intervention programmes operate in more than one domain – for instance, prevention programmes may teach children social skills and help parents with parenting skills, while disengagement programmes may help young people with recreational opportunities and employment, and work collaboratively with the community. Successful disengagement programmes always include opportunities for employment, since one key driver of gang involvement is economic gain. Suppression programmes that focus only on suppression run the risk of inciting the gangs to lash back with violence. Therefore, these should always be accompanied by other interventions that provide opportunities for employment (and other activities, such as pro-social recreation). Interventions that combine prevention, disengagement and suppression are only successful insofar as they successfully achieve inter-agency cooperation. Although many interventions have been implemented in high-income countries, a number of them focus exclusively on boys and few of the implemented interventions in low-to-middle income countries have been thoroughly evaluated. All novel programmes, or adaptations of programmes (for instance, to include girls), should be evaluated.

Keywords: gangs, prevention, suppression, disengagement

INTRODUCTION
In the case of gang-related injuries, child safety has to do with preventing intentional injuries, often committed by other children. North American literature suggests that young people who identify themselves as gang members are more likely to commit violent acts and more likely to become victims of violence, than those who do not (Huff, 1998). The primary prevention of gang-related injuries, therefore, has to do with preventing children from joining gangs. Secondary prevention has to do with helping children who are already in gangs to separate from them, while tertiary prevention seeks to suppress gang violence.

Gangs range from informal groups of young people who “hang out” on street corners (Pinnock, 1980), who might commit minor acts of delinquency together, and who might be drawn into illicit activities by other groups while others incorporate young people into a more formal structure that is run by adults and may even have links to organised crime.
(Standing, 2005). The extent of the problem, both in terms of how many children are involved in gangs, and how many are likely to be injured or to injure others as a consequence, is hard to assess. Official estimates at the end of the 1990s put the number of gangs in Cape Town at 130, with approximately 100,000 gang members (Standing, 2005). Although it appears that gangs are growing in numbers by recruiting local youth (Standing, 2005), no estimates of the involvement of young people are available. Gang activity is, by its very nature, clandestine and therefore membership is hard to quantify. Similarly, it is difficult to establish whether a particular injury results from gang-related activity.

There is tremendous overlap between gang membership and delinquency in general. One South African study found that children begin their involvement in gangs around age 12 (Legget, 2005), and children (particularly boys) begin to carry out delinquent acts at around the same age (Stolzenberg & D'Alessio, 2008). Risk factors for gang membership, and for delinquency and violence, also overlap considerably (see Table 1 for a summary of these risk factors). Based on ecological understandings of how risk factors operate, these may be characterised as factors that operate at the individual level, the level of children’s everyday contexts, and at the level of those contexts within which the everyday contexts nest – the community and societal levels.

The risk factors described here are drawn from several sources (Dowdney, 2005; Hill, Howell, Hawkins & Battin-Pearson, 1999; Hill, Lui & Hawkins, 2001).

### Table 1. Risk factors that increase the likelihood that a child will join a gang

<table>
<thead>
<tr>
<th>Risk factors in the individual</th>
<th>Risk factors in the child’s everyday contexts</th>
<th>Risk factors in the community</th>
<th>Risk factors in society</th>
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<tr>
<td>Children are more at risk of gang involvement if they:</td>
<td>Children are more at risk of gang involvement if they experience one or more of the following in their home, school or peer groups:</td>
<td>Children are more at risk of gang involvement if one or more of the following is true of their communities:</td>
<td>Children are more at risk of gang involvement if they experience one or more of the following in their society:</td>
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<tr>
<td>• Use drugs</td>
<td>• Their parents have pro-violent attitudes</td>
<td>• Drugs are available</td>
<td>• Cities have pockets of poverty within them</td>
</tr>
<tr>
<td>• Are violent or aggressive</td>
<td>• They have only one parent (even if there are other adults in the home), or no parents</td>
<td>• There are a number of delinquent young people in the neighbourhood</td>
<td>• There is a high proportion of young people in the population, together with low levels of education and high levels of unemployment (particularly youth unemployment)</td>
</tr>
<tr>
<td>• Have beliefs that justify breaking the law</td>
<td>• They have delinquent siblings</td>
<td>• They don’t like their neighbourhood</td>
<td>• Limited state services (for instance, a lack of policing)</td>
</tr>
<tr>
<td>• Are hyperactive</td>
<td>• They have a poor educational record at primary school</td>
<td></td>
<td>• State corruption</td>
</tr>
<tr>
<td>• Are unable to resist others who draw them into delinquent activities</td>
<td>• They have poor attachment and commitment to school</td>
<td></td>
<td>• The state itself is violent</td>
</tr>
<tr>
<td>• Have a learning disability</td>
<td>• Their household is poor</td>
<td></td>
<td>• Access to illicit economies</td>
</tr>
</tbody>
</table>

Source: Cooper & Ward (2007).
These sources describe how individual children’s beliefs and attributes put them at risk because their behaviour and beliefs are similar to those of other gang members prior to joining the gang (for instance, they believe that violence is acceptable and they use drugs), or they have attributes that weaken their connections to conventional social institutions such as schools (for instance, children with learning disabilities may find it hard to succeed at school and therefore aim to succeed in other things). If their environment does not offer positive alternatives, gang membership may hold some hope of success at something. Risk factors at the other levels indicate that poor role models and opportunities afforded by children’s environments for involvement in antisocial rather than pro-social activities, lead to increased risk (Catalano & Hawkins, 1996).

Programmes that successfully target these risk factors are likely to prevent delinquency and aggressive behaviour, and – because of the overlap in risk factors – are likely to become successful in preventing gang involvement (Shaw, 2001).

Although boys tend to commit delinquent acts at higher rates than girls (Howell, 1998), it would be incorrect to assume that all gang members are boys. Some gang members are girls, and some gangs are girl gangs (Joe & Chesney-Lind, 1995; Ward, 2007). This issue of gender is unfortunately not clearly addressed in the prevention literature: the gender bias of the literature is demonstrated in that some programmes have been tested only with boys. Although girls and boys face common problems, gender heavily influences how they cope with those problems, and programmes may need adaptation if they are to be applied to girls (Joe & Chesney-Lind, 1995). This Chapter’s objectives are to:

a. Review the literature on interventions to prevent children from joining gangs.

b. Review the literature on interventions to detach children from gangs.

c. Review the literature on suppressing gang activity.

Most of the concepts and much of the material is drawn from a report written for RAPCAN (Resources Aimed at Preventing Child Abuse and Neglect) in 2007 (Cooper & Ward, 2007). It is not an exhaustive review, but rather one that seeks to identify exemplar programmes. Most of the evidence for effectiveness is unfortunately weak, but where a programme has been evaluated thoroughly using a randomised controlled trial and found to be effective, this is noted. Spergel’s (1995) typology is used to classify the programmes: prevention programmes are those that aim to prevent young people from getting involved in the gang in the first place; disengagement programmes help young people who are already involved in the gang to withdraw; suppression programmes are law enforcement strategies that seek to keep gang activities to a minimum; and mixed models are, of course, a combination of the three.

PREVENTION PROGRAMMES

Two prevention programmes that successfully prevent delinquency are worth mentioning here, as they are among the only effective prevention programmes. These are nurse-home visitation (Olds, Hill & Rumsey, 1998) and the Olweus Bullying Programme (Limber, 2006). However, these have been covered in the child maltreatment and bullying Chapters respectively, and will therefore not be discussed here.

The Montreal Preventive Treatment Programme is an early intervention programme that has demonstrated effectiveness for preventing gang involvement. Forty-three boys who displayed disruptive behaviour received 19 sessions of social skills training, and their parents 17 sessions of positive family management skills, over the period that the boys were aged 7-9 (Tremblay, Pagani-Kurtz, Mâsse, Vitaro & Pihl, 1995). Boys who received the programme had significantly lower rates of delinquency, substance use and gang involvement at age 15, as compared with similar boys who did not
receive the programme (Tremblay, Mâsse, Pagani & Vitaro, 1996).

One widely cited, though weak, programme, is the Gang Resistance Education and Training Programme, or GREAT. The GREAT programme has law enforcement personnel delivering nine one-hour skills-training sessions to 11-13 year-olds at school, skills that are intended to help learners resist joining gangs. An evaluation showed that those who received the programme had significantly more prosocial attitudes than a control group, four years after receiving the programme, including lower levels of risk-seeking and victimisation, more negative attitudes towards gangs, and more friends involved in positive social activities (Esbensen, Freng, Taylor, Petersen & Osgood, 2002). However, actual gang involvement was not measured, and so conclusions about the programme’s effectiveness on gang involvement cannot be drawn. In addition, GREAT has two further drawbacks: it is delivered through schools, which means that young people who are most at risk (who have dropped out of school, or who are playing truant) will not receive the programme; in addition, it works only in one domain, the school. Successful prevention programmes typically work in more than one domain (Nation et al., 2003). GREAT is therefore not a programme that can be described as effective.

A school-based programme which has included another domain is the Broad Urban Involvement and Leadership Development (BUILD). BUILD combined a school curriculum with an after-school programme that provided recreational activities, job skills, educational assistance and social activities (Thompson & Jason, 1988). Although it was evaluated and fewer young people in the experimental group joined gangs than in the control group, the difference between the two groups was not significant; this may have been because the evaluation suffered from methodological problems (a small sample size and a short follow-up period). Theoretically, this programme targeted many of the reasons young people say they join gangs, and appears to have been well-designed. However, until an evaluation shows more of an effect, the best that can be said is that it may be shown to be promising if evaluated more rigorously.

The remaining programmes in this review include those from high-income countries and South Africa which (all but one) have not been rigorously evaluated. They are included here because they address locally pertinent socio-economic risks for gang membership.

The Guatemalan Ministry of Education has supported an alternative form of education to address poor education and unemployment, two risk factors that may make gangs attractive, especially to older teenagers. This programme, called DIGEEX (Direccion General de Educacion Extra-Escolar), aims to provide relevant education in a particular community context that is directly linked to employment. For example, training for a community whose economy is driven by the textile market would involve textile-industry relevant skills and problem-solving tailored to the textile industry. ‘Capacitation centres’ linked to DIGEEX have been established to provide technical and vocational training and there are currently 425 such centres (USAID, 2006).

In Rio de Janeiro, the Afro Reggae Cultural Group (GCAR) offers a range of programmes to young people, including extramural sports, dance and martial arts programmes, as well as education and training (Dowdney, 2005). GCAR is also unique amongst the other interventions reviewed thus far, because it describes a programme that is based on creating a cultural identity for otherwise marginalised youth. The programme is rooted in the community it serves; is a “bottom-up” programme, and therefore may also be far more successful than...
those that are imposed (Shinn & Toohey, 2003). One other aspect of GCAR is worth mentioning: in the favela in which it first worked, Vigario Geral, access to the young people was first negotiated with the gang that held sway in that community (John Hagedorn, personal communication). This is a little-recognised aspect of gang prevention programmes but is worth mentioning, since in many communities it may be the route to success.

For young men living in poor urban neighbourhoods, one of the drives towards joining a gang is that they seem to meet a need for a rite of passage into manhood by providing a sense of independence from family, as well as a sense of belonging to another group which is not provided anywhere else in these neighbourhoods (Cooper & Foster, 2008; Huff, 1998). In South Africa, the Usiko prevention programme seeks to meet these needs through eco-therapy. Eco-therapy interventions use wilderness experiences to teach pro-social values with regard to others and the environment. Currently Usiko works in two local communities. It provides alternative rites of passage for both boys and girls; and in one of the communities the organisation’s activities have expanded to include other areas such as life skills, mentoring programmes, and small farm development. The programme has undergone an evaluation (see www.usiko.org for details) but this was not a randomised controlled trial, and therefore it is not possible to comment on its effectiveness.

In addition, although eco-therapy programmes for young offenders have been shown to have weak or negative effects on their behaviour (Van der Merwe & Dawes, 2007), their promise, and that of rites of passage programmes, as prevention programs has not yet been investigated.

In the Western Cape, three provincial strategies seek to provide an alternative, positive peer group to the negative one of the gang (Kagee & Frank, 2005): the Bambanani Strategy, the Chrysalis Youth Academy and the Youth Leaders Against Crime Programme; all aim to train young people from high-risk communities to set up and lead youth clubs. The Chrysalis Youth Academy in particular offers a wide-ranging and intensive programme over five years, which includes an emphasis on youth employment skills and parent training. In 2006 the programme was evaluated and recognised as a best practice example in youth crime.

**Chrysalis Academy**

The Chrysalis Academy is a non-profit organisation funded by the Western Cape Department of Community Safety. Its vision is to develop “youth at risk” into community leaders; it targets young people between the ages of 17 and 25 who have no criminal record, who have a minimum education of Grade 9, and who are unemployed at the time of entry into the programme. Both young women and young men may enter the Academy.

Their five-year programme starts with a 3-month residential training programme at their headquarters in Tokai, Cape Town. After a 3-week orientation phase, students go on a 2 week outdoor programme, followed by a 3-4 week skill-building phase and then a community phase, which focuses on preparing students for returning to their home communities. Accompanying this group programme, students have access to individual counselling and life coaching as needed, and parent workshops and family sessions are offered, to promote positive parenting.

After graduating from this intensive training programme, graduates are encouraged to remain involved as volunteers with the established Chrysalis Community Youth Clubs. The graduates are enrolled in the Aftercare Programme, which tracks and supports them for a further five years. These clubs “give back” to the community, and have different programmes depending on the needs of those communities. They might provide sports programmes in primary schools, organise holiday clubs, or be involved in community structures such as Community Policing Forums.

Source: www.chrysalisacademy.org.za.
prevention (www.chrysalisacademy.org.za). See the Box for further details of this effective programme.

Disengagement programmes

Disengagement programmes seek to help young gang members withdraw from – disengage from – the gang. In this section, several types of programme are reviewed. Some are “detached worker” programmes, or outreach programmes, while others work via the criminal justice system. Both detached worker and criminal justice system programmes tend to see the young person’s behaviour as a problem and try to change that behaviour, while a third type of disengagement programme views gang membership as arising from socio-economic conditions, and tries to address it by providing opportunities, rather than treatment.

The Midcity project in Roxbury, Boston was one of the most rigorously evaluated detached worker interventions. It worked with over 400 members of 21 gangs (Howell, 1988) and included family casework, organised group work, recreation and job referral (Spergel, 1995). Despite a careful evaluation and a programme of excellent quality, it was found to have negligible impact (Howell, 1998). However, another detached worker project, the Ladino Hills project which began in South-Central Los Angeles in 1961, does seem to have been effective in helping young people out of the gang (Howell, 1998). Gang members were helped to find employment, recreational activities were organised, individual therapy was provided, and parents’ clubs were started. As an aside, it should be noted that this project actually aimed to test whether gangs themselves would be weakened if their members participated in more non-gang activities (Spergel, 1995); what was found, however, was that while individual gang members were able to leave the gang lifestyle, the gang itself continued to exist (Howell, 1998). This is a salutary reminder that gangs come into being under particular social and economic conditions; interventions directed at individuals will not affect these, and so are unlikely to affect the existence of the gang itself.

At the same time as these detached worker projects were implemented, the House of Umoja (a Swahili word for “unity”) project was developed in Philadelphia as a grassroots programme led by community residents. The programme targeted youth who generally lived on the street and were involved in gangs, and who received through the House of Umoja a comprehensive programme, including education, career development, employment assistance, housing and individual counselling (Howell, 1998). The House of Umoja also organised a gang summit that resulted in a truce between gangs, during which no gang members died. The project was instrumental in reducing the number of gang deaths in Philadelphia, from 39 in 1973 to 6 in 1976 and 1 in 1977 (Howell, 1998; Spergel, 1995). This again illustrates that successful programmes may include some form of negotiation and even compromise with existing gangs in communities, and that community-driven programmes may be more successful than those developed by outside agencies (such as the police).

The Boys and Girls Club of America, in conjunction with the United States Office of Juvenile Justice and Delinquency Prevention (OJJDP), developed the Gang Intervention Through Targeted Outreach (GITTO) initiative (Arbreton & McClanahan, 2002). This programme offered young people positive after-school activities, with the aim of enrolment in Boys and Girls Clubs (neighbourhood-based after-school facilities), and individualised case management intended to decrease gang involvement. In addition, services such as drug treatment, tattoo removal, remedial education, life-skills, and job training were also offered (Arbreton & McClanahan, 2002). In an evaluation in which 66 GITTO youth were matched with comparison youth from similar neighbourhoods,
the intervention group had significantly greater expectations of graduating from high school, a significant reduction in gang associated behaviours (less stealing with other gang members, wearing gang colours, flashing gang signals, spending time with gang members) and significantly less contact with the juvenile justice system (Arbreton & McClanahan, 2002).

Programmes offered through the criminal justice system are directed at individual offenders, and intended to re-integrate them into society. Operation New Hope was one such example. In this programme, participants received 13 weekly sessions of life skills training. In an evaluation of this programme, participants were significantly different from those in the control group in that they had significantly less contact with former gang friends, were significantly more likely to find employment, were significantly less likely to use illicit drugs and had significantly reduced recidivism during programme participation (Josi & Sechrest, 1999). However, these differences dissipated over time; the key variable seems to have been that those participants who could not find successful employment returned to the gang.

The Multi-disciplinary Team (MDT) Home Run Programme was also a juvenile justice system programme, but used individual case management. The programme offered a range of services, over six months, to first-time offenders. Each team included a probation officer, public health nurse, clinical therapist and social services practitioner and others as needed, providing comprehensive treatment to first time offenders. Depending on the needs of the offender, treatment might have addressed substance abuse, education, family functioning, the offender’s own social functioning, his/her delinquent peer group, and other areas as necessary (and might have included such restorative justice elements as victim restitution and community service). In an evaluation that included 145 gang members and 137 non-gang members, both groups improved significantly in terms of academic performance, attendance of classes, suspensions from school, self-perceived family functioning and number of arrests (Schram & Gaines, 2005). MDT is very similar in spirit to Multi-systemic Therapy (Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 2009), which has been shown to be effective in reducing delinquency, and is therefore also likely to be effective as a disengagement strategy (Lafontaine, Ferguson & Wormith, 2005). In terms of transfer to South Africa, however, it should be noted that both interventions are very intensive, and demand a high level of staff skill. They may therefore not be easy to implement in an environment where demand for services is high but there are relatively few highly trained professionals to deliver such services.

In South African prisons, an organisation called The President’s Award for Youth Empowerment runs a programme called Reintegration and Diversion for Youth, or READY (Steyn, 2005). Although not specifically targeted at gang members, its work with young offenders serving custodial sentences will inevitably include gang members. The programme requires young people to perform community service, to go through a skills training program, to take part in an outdoor expedition of several days, and to participate in regular sports and recreation. Evaluations (unfortunately not meeting criteria of methodological rigour) suggest that it is successful in reducing recidivism (Steyn, 2005).

Other programmes in our prisons are the Tough Enough Program, run by NICRO, and Khulisa’s Destinations programme (Steyn, 2005). Tough Enough runs over 9-12 months, starting 3 months before release, and works with both offenders and their families. Although the programme has not been formally evaluated, informal records of programme staff indicate that recidivism rates of participants are low and are mostly because of
parole violations rather than re-offending (Steyn, 2005). Destinations is a three-month programme that aims to prepare people for employment, and works with them on release from prison. Again, there is no formal evaluation of this program, but programme staff records suggest that the recidivism rate for graduates of this programme is lower than the national average (Steyn, 2005).

Opportunities provision programmes are a particular form of disengagement programme that are less treatment-oriented in nature. Rather, they recognise that gangs provide a livelihood to their members, and that if disengagement is to succeed, ex-gangsters must have a viable, legitimate means of making a living outside of the gang. One example of such a programme comes from Medellin, Colombia: both state and private institutions offer long-term employment programmes and opportunities for social mobility, if Medellin gangsters withdrew from gangs (Rodgers, 1999). These youth gang leaders have been encouraged to immerse themselves in community politics and aid in the development of their communities, using their gang networks to these ends. Gangs have even been given incentives to collaborate with each other on social development projects and have been transformed into community conflict mediators (Mcllwaine & Moser, 2001; Rodgers, 1999).

Disengagement programmes thus run a gamut from “detached worker” programmes, which have successfully helped individual gang members (although not eradicated gangs), through juvenile justice programmes, of which the same could be true, to opportunity-creating programmes which have not been rigorously evaluated.

It is also worth noting that disengagement programmes are far more labour-intensive (and hence costly) than prevention programmes. If one contrasts the Montreal Preventive Treatment Programme, which required 36 hours of treatment (over both boys and their parents), with the Ladino Hills Project, which required many hours of an outreach worker’s time, it is clear that early intervention is easier and cheaper – without even considering the costs of the crimes committed by the young gang member. This is true, in general, for most early intervention programmes (Carneiro & Heckman, 2003).

**Suppression programmes**

Suppression programmes contrast with prevention and disengagement programmes in that they do not attempt to work with individuals at all: their sole aim is to suppress the activity of existing gangs. As injury prevention programmes, they may have two roles: one is that, in suppressing gang activity, they may reduce the number of injuries that result from such activity; the other is that they may, at the same time, make gangs less accessible to young people. Suppression programmes are typically criminal justice programmes – policing programmes, such as targeting gang activities and preventing them, or reducing the number of firearms; or criminal justice programmes, such as focussing on the efficient prosecution of gang members; or legislation to increase punishment for gang membership.

One example of a joint policing and prosecution strategy is TARGET (the Tri-Agency Resource Gang Enforcement Team) of Orange County, California, which operated in eight cities in the year 2000. High-profile gang members were arrested and tried; of those placed in custody, there was a 99% conviction rate and a 62% reduction in gang-related crime. In 1998, 3 475 criminal charges were laid against gang members and a cumulative 47% decrease in gang crime occurred over a seven year period (Howell, 2000). Similarly, the Anti-Gang Initiative in Dallas, Texas targeted seven of the city’s most prominent gangs, using high visibility patrols in gang hotspots, curfews for suspected gang members, and aggressive
enforcement of truancy legislation (Fritsch, Caeti & Taylor, 1999). Areas targeted were compared with control areas, and it was found that there was a 57% decrease in the target areas and a 37% decrease in the control areas (Fritsch et al., 1999).

However, not all such operations have shown success. “Gang sweeps” – policing operations where the police arrest as many known gang members as they can on a single night – do not seem successful. For instance, in one gang sweep, known as Operation Hammer in South Central Los Angeles in 1988, one thousand police officers arrested 1 453 likely gang members on a Friday and a Saturday night; however, ultimately charges were only filed in 32 instances and the operation was described as “remarkably inefficient” (Klein, 1995, p.162).

However, suppression approaches can backfire. So-called mano dura (“heavy hand”) policies were introduced by governments in El Salvador and Honduras. In El Salvador, mano dura policies led to 11 000 arrests in 2003, but these policies seem to have increased cohesion and violence of response from the gangs, who united against the government actions. Due to this response the government reformed some of its strategies, setting aside 20% of total funding for gang interventions to be dedicated to ‘friendly hand’ and ‘extended hand’ approaches, or prevention strategies (USAID, 2006).

Community policing approaches to reducing the number of guns available to young people and the number of firearms-related injuries and deaths are other forms of suppression programmes that have shown some success, but only where they are intensively implemented and only on violent firearms crimes, not necessarily on gang membership (Dunworth, 2000).

In South Africa, the Prevention of Organised Crime Act (Act 121 of 1998) criminalises gang membership, or any criminal activities related to gangsterism. Although it had been passed in 1998, it was only in 2005 that this Act was beginning to be used to obtain convictions of gang members (Kagee & Frank, 2005). However, Standing (2005) warned that wholehearted enforcement of this Act was only likely to cause exactly what had happened in El Salvador: a uniting of the gangs against law enforcement officials. Similarly, there are other suppression programs in the Western Cape that run the same risk. Operation Slasher identifies police stations in areas where there have been high levels of gang violence, and applies a “zero tolerance” approach to policing in those areas (Kagee & Frank, 2005). The High Flyer Program, on the other hand, may be less likely to evoke a response from the gangs of uniting to address a common threat (law enforcement), since it targets only a relatively few individuals known to be responsible for high levels of serious organised crime (Kagee & Frank, 2005). Suppression through law enforcement may be effective if it deters and deals with adults involved in gangsterism, as young gang members are significantly less likely to leave the gang if the gang has adult leaders (Knox, 1997).

There is therefore evidence that targeting the most dangerous gang members, hotspots or drug dealers can effectively decrease gang crime. Carrying this out, however, needs an efficient and well coordinated law-enforcement team. Limiting the number of available firearms has also proven to work to decrease gang crime in the United States. Suppression strategies can therefore perform important tasks, such as keeping people not involved in gangs safe and protecting community residents, if they are carried out thoughtfully and carefully, and do not provoke a backlash from the gangs.

Mixed models
Given that prevention programs may help to prevent young people from joining gangs in the first place, but do not help those already involved; disengagement programs help young people to leave but do not keep community residents safe since the gang still
exists; and suppression programs may (if they do not cause a backlash) increase safety but do not change the gang itself; it makes the most sense to combine effective elements of these different interventions. Having said this, however, a ‘one size fits all’ approach to gang interventions, a strategy which assumes that the same programs can be implemented unaltered in different contexts, is not effective (Spergel, 1995). Therefore, mixed model interventions stress tailoring programs to the needs of specific communities. This requires thorough research on the actual situation, in a specific location, before the programme is implemented (Spergel, 1995).

In the US, the OJJDP and the University of Chicago’s Irving Spergel have been developing a comprehensive community-wide model to gang interventions since the 1980s. This model incorporates prevention, disengagement and suppression components and attempts to provide guidelines to develop community structures and leadership (Spergel, 1995). The so-called “Spergel model” is not a programme as such, but a framework that assists communities in setting up a coordinated range of programs (Howell, 2007). Key to the Spergel model is the cooperation of different agencies.

Using the Spergel model, six comprehensive community-wide approaches have been tested and implemented. The first was The Gang Violence Reduction Programme based in the Little Village area of Chicago. In this program, a team of community youth workers (often themselves former gang members), police officers dedicated to the project, adult probation officers and representatives of neighbourhood organisations worked under the aegis of the Chicago Police Department to mobilise community agencies to work together (rather than separately) on the gang problem in Little Village; to provide opportunities such as job opportunities and training for older gang members, and remedial or alternative education for younger gang members; to reach out actively to gang members through street work, and to provide family counselling, crisis intervention, substance abuse treatment, and the like; to carry out suppression activities targeted at specific youths and at gangs, with an emphasis also on positive information sharing with youths and on co-ordination of agencies to develop collaboration between the various organisations in a tightly-knit structure, targeting specific young people, gangs and social contexts that were at high risk for a crime situation (Spergel & Grossman, 1997). The project had several outcomes: older youths who had been specifically targeted by the programme were less likely to be arrested for violent crimes in the three-year period of the program; and Little Village had the lowest increase in gang violence (compared with similar areas) over the four years of the project. However, subsequent implementations of the model achieved success only in some communities, and this depended on the extent to which inter-agency collaboration was achieved (Spergel, Wa & Sosa, 2005a, 2005b).

Another mixed model approach was Boston’s Operation Ceasefire. Although primarily a suppression intervention aimed at youth firearm violence, what made this a mixed model was that, simultaneous to using every possible legal option when violence occurred to suppress further violence, gang members were offered services by police officers, probation officers, detached workers and later in the project’s term, community organisations and churches (Braga, Kennedy, Waring & Piehl, 2001). An impact evaluation indicated that Boston experienced lower levels of youth homicide, gun assaults and police being called out because shots had been fired, after Operation Ceasefire had been implemented (Braga et al., 2001).

Mixed models hold out hope, both for increasing community safety, as well as reducing young people’s involvement in gangs. The key to their
successful implementation, however, is efficient cooperation between the agencies involved, implementing a coordinated community-wide plan that has grassroots involvement and in obtaining genuine community participation. One of the key barriers to inter-agency co-operation is that individual agencies have their own budgets, goals and cultures. Future ‘mixed-model’ projects therefore need to find ways of dealing with the issues of cooperation and coordination, in order to implement genuine community-wide interventions. In addition, these projects need to be designed to deal with the particular kinds of gangs, and the particular risk factors and opportunities, which exist in the community in question.

PRIORITY RECOMMENDATIONS
Gangs in South Africa have been created in a particular crucible of economic disenfranchisement (Steinberg, 2004), and there is little that any prevention programme can do to tamper with their existence. However, programmes that successfully prevent delinquency can successfully prevent children’s involvement in gangs, and this will reduce their risk of injuries related to gang violence. Carefully-planned outreach programmes (that reach out to young gang members), or those that work with offenders in the justice system, also offer some hope in terms of disengaging young people from gangs. Common factors in the success of these programmes are tailoring the programme to the needs of the young person involved, working in more than one domain of the young person’s life (e.g., school and parenting) and ensuring that the programme ultimately leads to employment. These first two are characteristics of any good prevention programme (Nation et al., 2003); the last is particularly important in view of the role that economic considerations play in the attraction to gangs (Ward, 2007). Finally, carefully-considered suppression programmes can play a role in preventing gang activity – gang violence – and hence injuries from occurring. However, unless these are accompanied by some form of opportunities provision, they are only likely to draw from the gang a backlash of violent opposition to being policed – that may actually increase injuries. Mixed models – models that combine prevention, disengagement and suppression initiatives – hold promise, but are difficult to carry out successfully because the agencies involved may have competing objectives (Spergel et al., 2005a, 2005b). Working with the community is important in the success of programmes, and may be particularly so with regard to disengagement, suppression, and “mixed model” programmes (Shinn & Toohey, 2003).

Finally, it is important to note that many of these programmes have been developed with young male offenders and in high-income settings. Any adaptations that include young women, or have been made specifically for the South African context

Key messages
• Early prevention is cheaper and easier than disengagement or suppression operations, since the latter are far more labour intensive and less likely to be effective; also, by the time a child is involved in a gang, s/he has had plenty of opportunity to injure or be injured.
• Successful intervention programmes operate in more than one domain – for instance, prevention programmes may teach children social skills and help parents with parenting skills; disengagement programmes may help young people with recreational opportunities and employment, and work collaboratively with the community.
• Successful disengagement programmes always include opportunities for employment.
• Suppression programmes that focus only on suppression run the risk of inciting the gangs to lash back with violence; they should always be accompanied by other interventions that provide opportunities for employment (and other activities, such as pro-social recreation).
• Interventions that combine prevention, disengagement and suppression are only successful insofar as they successfully achieve inter-agency co-operation.
• If a programme is adapted in any way, it should be evaluated.
– for instance, by using lower skilled staff – should be evaluated, because these adaptations may tamper with the programme’s effectiveness.

**REFERENCE LIST**


Gangs and Child Safety


Gangs and Child Safety


Ward, C.L. (2007). “It feels like it’s the end of the world”: Cape Town’s youth talk about gangs and community
ABSTRACT
Children deprived of their liberty by the state are, as a result of state officials’ action or inaction, at the risk of death, torture, and ill treatment. Three types of places of detention are discussed, namely prisons, police cells, and child and youth care centres. The Chapter accepts the UN Convention against Torture (CAT) as the legal anchor point and proceeds to give a more detailed description of rights violations against children in detention, focussing on deaths in custody; torture and assaults; harsh conditions of detention; solitary confinement and detention incommunicado; illegal and inappropriate means of maintaining discipline; separation of categories of detainees; trafficking. The Chapter concludes with a number of recommendations focussing on improving the collection of data pertaining to children in custody; the criminalisation of torture; the need for comprehensive and continuous staff training; the regular review of policies, procedures and practices; promoting transparency and establishing independent oversight; establishing effective complaints mechanisms; the need for prompt and impartial investigations; and obtaining effective redress.

Keywords: children, prisons, deprivation of liberty, torture and ill treatment, oversight

INTRODUCTION
This Chapter focuses on children deprived of their liberty by the state and who, as a result of state officials’ action or inaction, suffer deaths, torture, ill treatment or the risk thereof. Three types of places of detention will be discussed, namely prisons, police cells, and child and youth care centres (CYCC). The term ‘child and youth care centre’ covers the institutions formerly known as reformatories (or reform schools), schools of industries, and secure care facilities. The deprivation of liberty, according to Rule 11(b) of the UN Rules for the Protection of Juveniles Deprived of their Liberty “means any form of detention or imprisonment or the placement of a person in a public or private custodial setting which that person is not permitted to leave at will by order of any judicial, administrative or other authority”.

Once a person, adult or child, is deprived of his/her liberty he/she is in a relationship of total dependence to the official(s) in charge. A person in custody cannot leave when the situation becomes threatening, he/she cannot pick up the phone and call for assistance and must therefore seek assistance from the officials in charge. It is this dependency that makes detainees vulnerable to torture, ill treatment and other forms of coercion and victimisation. Nowak and McArthur (2006), in discussing the distinction between torture and ill treatment, concluded that
“it is the powerlessness of the victim in a situation of detention which makes him or her so vulnerable to any type of physical or mental pressure. That is why such pressure must be considered as directly interfering with the dignity of the person concerned and is, therefore, not subject to any proportionality test” (Nowak & McArthur, 2006, p. 151). When the state places a person in custody, the state does so with the understanding that it accepts responsibility for that person’s safety and care. This duty cannot be derogated from; the state cannot blame other actors, such as fellow prisoners, for the harm done to a particular prisoner. The point of departure is, and must be, that if the state could have prevented the harm caused, it should have done so. This requires that the state must put in place the necessary mechanisms to proactively monitor and manage risks. It is for this reason that the UN Convention against Torture and Cruel, Inhuman or Degrading Treatment or Punishment (CAT), which South Africa ratified in 1998, clearly places the obligation on states in Article 2(1), to “take effective legislative, administrative, judicial or other measures to prevent acts of torture in any territory under its jurisdiction”. Moreover, Article 2(2) confirms the absolute prohibition of torture as peremptory norm in customary international law, stating that “No exceptional circumstances, whatsoever, whether a state of war or a threat of war, internal political instability or any other public emergency, may be invoked as a justification of torture” (Nowak & McArthur, 2008, p. 118). Moreover, Article 16 of CAT extends the absolute prohibition of torture to other forms of ill treatment that do not amount to torture as defined in Article 1. This Chapter will, therefore:

a. Accept CAT as the legal anchor point and proceed to give a more detailed analysis of rights violations against children deprived of their liberty in South Africa.

b. The recommendations made at the end of the Chapter are derived from the obligations placed on states parties to the CAT.

In line with the definition of torture in CAT, this Chapter accepts that torture and other ill treatment include any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person, and are therefore within the scope of the discussion. Moreover, and in line with Nowak and McArthur’s interpretation, any form of pressure on an individual whilst deprived of his or her liberty should be regarded as an attack on that individual’s dignity. Children deprived of their liberty are even
more vulnerable than adults due to their age, physical stature, intellectual abilities and lack of knowledge about their rights.

**THE LEGAL FRAMEWORK**

Together with CAT must also be read the UN Convention on the Rights of the Child which echoes the absolute prohibition of torture and ill treatment in Article 37(a) and Article 37(c) gives more detail on conditions of detention:

“Every child deprived of liberty shall be treated with humanity and respect for the inherent dignity of the human person, and in a manner which takes into account the needs of persons of his or her age. In particular, every child deprived of liberty shall be separated from adults unless it is considered in the child’s best interest not to do so and shall have the right to maintain contact with his or her family through correspondence and visits, save in exceptional circumstances”.

**Prisons**

At the domestic level, the Constitution in section 28(1)(g) is clear that children may only be detained as a measure of last resort and then for the “shortest appropriate period of time”. In respect of children in prison as sentenced and unsentenced prisoners, the Correctional Services Act (111 of 1998) places a general duty in section 2 on the Department of Correctional Services (DCS) to detain “all prisoners in safe custody whilst ensuring their human dignity”. As from 1 April 2010, when the Child Justice Act as of 2008 come into operation, only children 14 years and older may be detained in a prison, either as sentenced or unsentenced prisoners. The detention of children as awaiting trial prisoners is a practice that should be avoided at all costs and there have been calls for its prohibition in other jurisdictions (National Juvenile Detention Association, 2005). The drafters of the Correctional Services Act were mindful of the special needs of children and section 19 deals with these. Importantly, the Act stipulates in section 7(2)(c) that children must be separated from adults and detained in accommodation “appropriate to their age”, although it is unclear what this means in practice. This is in addition to the general rules of separation of sentenced and unsentenced, and separation of genders. A further important feature of the Correctional Services Act is the fact that all prisoners, children included, have access to the Independent Correctional Centre Visitors (ICCV) of the Judicial Inspectorate for Correctional Services (JICS). The ICCVs are independent persons mandated to report on conditions of detention and record complaints from prisoners. The aim is to resolve these through discussions with the Head of Centre. If this fails, the complaint may be taken to regional level, or in the case of serious and urgent matters, be referred directly to the Inspecting Judge. The Correctional Services Act (as amended) also requires the head of a correctional centre to report to the Inspecting Judge all deaths of prisoners and all instances of use of force.

**Police cells**

The Criminal Procedure Act (section 50) enables the police to detain a person for up to 48 hours prior to that person’s first court appearance in the event that the person was not released on police bail. The South African Police Service (SAPS) Standing Orders (SAPS, 2003) describe the procedures pertaining to the handling of persons in their custody. Amongst all government policies and procedures it is singular in adopting a definition of torture almost identical to that of the definition of torture in Article 1 of CAT. Paragraph 8 of the Standing Orders deals with ‘Special groups’, which is understood to also mean vulnerable groups. Reference is made to, amongst others, children. Paragraph 13 deals in more detail with safe custody with reference to separation of categories, the conditions of detention, the condition of detention facilities, reading material, visits to cells, restraining measures, clothing,
drinking water and food, and some general issues. The Standing Orders require, amongst others that children must be held separate from adults and only detained as a measure of last resort. It is furthermore required that cells must have adequate lighting and ventilation; reasonable means to rest (e.g., chair and or benches); detainees must be issued with mattresses or sleeping mats which are clean and in good order; cells must be clean, and detainees must have access to adequate toilet and washing facilities with hot and cold water. Paragraph 13(6) of the Standing Orders states that ordinary persons in custody must be visited at least every hour and persons insensible from liquor or another cause, every 30 minutes and roused unless he/she is breathing normally. Persons under restraint must also be visited every hour and the restraints removed as soon as his or her condition or behaviour justifies it. The Standing Orders are silent on a number of issues that would assist in improving the safety of detainees. It does not describe what ‘safe custody’ is and what possible threats there may be to detainees’ health and safety. This is a sore omission as it leaves officials at operational level to come to their own interpretation of what ‘safe custody’ is and what possible threats to it may be.

The definition of torture provided in the Standing Orders is obviously based on Article 1 of CAT but no mention is made of CAT, nor do the Standing Orders communicate the absolute prohibition of torture, cruel, inhuman and degrading treatment or punishment. It also fails to explain the very important duty placed on all officials to act when they are aware of a possible violation of CAT and that failure through ‘consent or acquiescence’ may make them liable for the violation(s). The Standing Orders also make no mention of the Article 2(3), stating that superior orders cannot be invoked as a justification of torture or the ill treatment of detained persons. Furthermore there is no requirement in the Standing Orders to conduct an assessment with a view to classification and separation of detainees; these categories are predetermined. It is furthermore noticeable that the purpose of separation is not explained in the Standing Orders. The overall impression is thus that the Standing Orders, from the outset, gloss over the requirements set in the Constitution and international law; they do not explain in detail what these obligations are, nor do they explain the responsibility resting on every police officer when working with people deprived of their liberty. In view of this shortcoming, it is evident that the Standing Orders do not foster awareness with police officials regarding the absolute prohibition of torture and inter-detainee violence. Instead the Standing Orders deal with the treatment of detainees in a perfunctory manner and do little to encourage the proactive management of risk situations.

**Child and youth care centres**

Child and Youth Care Centres (CYCC) now incorporates what were formally known as places of safety, schools of industries, reformatories and secure care facilities and are defined in the Children’s Amendment Act (41 of 2007) as “a facility for the provision of residential care to more than six children outside the child’s family environment in accordance with a residential care programme suited for the children in the facility”, but excludes a number of other known facility types. These are: partial care facility; a drop-in centre; a boarding school; a school hostel or other residential facility attached to a school; a prison; or any other establishment which is maintained mainly for the tuition or training of children other than an establishment which is maintained for children ordered by a court to receive tuition or training.

In order to distinguish between one CYCC and another one must have regard to whether the facility in question has a residential care programme suited for the child in question. Importantly CYCC are now known as a single concept even though they may offer programmes for children in need of care and
Children Deprived of their Liberty

protection; children awaiting trial; children awaiting sentence or sentenced children. The provisions in the Children’s Act apply to all CYCCs irrespective of the category of children they may house. There is no differentiation between the procedures applying to CYCC on the basis of the children housed in them, and all procedures apply equally to all children irrespective of whether they are children in need of care and protection or children sentenced to a CYCC in terms of the child justice system. Children can be committed by a court to a CYCC under the Child Justice Act as a sentenced child (section 76) or unsentenced child (section 29).

The Children’s Amendment Act requires in section 294 that national norms and standards applicable to CYCC be developed and issued as regulations. Importantly, these must include national norms and standards relating to ‘protection from abuse and neglect’. The draft regulations to the Children’s Act, available at the time of writing, specifically state that children in CYCC have the right:

- To be free from physical punishment and other degrading treatment.
- To positive discipline appropriate to his or her level of development.
- To protection from all forms of emotional, physical, sexual and verbal abuse (Department of Social Development [DSD], 2009, p. 91).

The Draft Regulations also deal in a fair amount of detail with behaviour management and prohibited practices in this regard (e.g., corporal punishment) and also prescribe what reportable incidents are. The latter adds detail to a general obligation placed on employees and officials working with children or coming into contact with children, created in the Children’s Act (section 110), to report to the police or the DSD if there are reasonable grounds to believe that a child has been abused or is being neglected. Of concern in respect of the Children’s Act, Draft Regulations and the draft norms and standards, is the lack of independent oversight, the weak complaints mechanisms, and the weak regime set out in law in respect of allegations of torture and other ill treatment. The Children’s Act did not establish an independent oversight mechanism similar to the JICS, nor does the Act or the Draft Regulations empower the management board of the CYCC to conduct announced and unannounced inspections. The Draft Regulations make provision for a ‘written complaints procedure’ that is managed by the staff of the CYCC, but it is unlikely that this will be perceived as legitimate if there are serious rights violations. Lastly, if an employee or official has reported to the Department or police that he has reasonable grounds to believe that a child has been abused or is being neglected, this will be investigated by the Department and the police. There is, however, no mechanism to ensure that this investigation is indeed done, followed through and acted upon. While the Act (section 211) makes provision for a quality assurance process to be undertaken by an independent and multi-disciplinary team, the frequency with which this will be undertaken (every three years) is not sufficient to ensure a tangible sense of transparency and protection.

DIMENSIONS OF ILL TREATMENT OF CHILDREN IN CUSTODIAL SETTINGS

Lack of accurate information

The overwhelming majority of children coming into conflict with the law are charged with minor offences and pose a limited risk to the interests of justice and the safety of community (Pinheiro, 2006). There are an estimated 102 000 children arrested annually in South Africa (Muntingh, 2007), but it is unknown how many of them are detained by the police and for how long. In respect of children in prison, more reliable data is available and it is a major positive development that their numbers have declined from more than 4300 in 2003 (Muntingh, 2007) to less than 850 by February 2011 (Judicial Inspectorate for Correctional Services,
2011). The most recently available figures indicate that in February 2006 there were 1556 children detained in CYCC (Muntingh, 2007).

Accurate data on the extent of violence committed against and injuries sustained by children in custodial settings is by and large absent. There exists no centralised database where this is recorded in respect of prisons, police cells and CYCC. Information that does emerge is frequently the result of media reports and/or litigation. Information made available through departmental annual reports (e.g., DCS) may indicate the number of reported assaults but this is not disaggregated in any manner and merely presents a total. Reports from the existing oversight structures (the JICS and the Independent Complaints Directorate) also do not present disaggregated data in respect of children. Annual reports from

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| **Policy Indicators** | |
| 9 | Regular independent inspections | — Existence of a system guaranteeing regular independent inspection of places of detention |
| | | — Percentage of places of detention that have received an independent inspection visit in the last 12 months |
| 10 | Complaints mechanisms | — Existence of a complaints system for children in detention |
| | | — Percentage of places of detention operating a complaints system |
| 11 | Limitations of physical restraint and use of force | — Existence of specialised standards and norms concerning recourse by personnel to physical restraint and use of force with respect to children deprived of liberty |
| | | — Percentage of children in detention who have experienced the use of restraint or force by staff at least once during a 12 month period |
| 12 | Specialised disciplinary measures and procedures | — Existence of specialised standards and norms concerning disciplinary measures and procedures with respect to children deprived of liberty |
| | | — Percentage of children in detention who have experienced a disciplinary measure at least once during a 12 month period |
the DoE and DSD do not report any information pertaining to deaths and injuries of children in their facilities. Consequently, it must be accepted that our understanding of the scope and extent of the problem is limited. What is certain is that children in detention facilities are subjected to various forms of torture and ill treatment through the action or inaction of officials. Collecting information on the indicators set out in Table 1 below will enable the development of accurate data that will enable a better understanding of the problem and also assist in monitoring trends. The indicators listed in Table 1 are extracted from the full list of child justice indicators developed by UNICEF and UNODC, pertaining to those that are relevant to injury and violence against children in detention.

**Deaths in custody and self-harm**
The Independent Complaints Directorate reported in its 2008/9 annual report that 912 cases of deaths in police custody and as a result of police action were referred to it, but it is not specified how many of these victims were children. There are, however, several media reports of children who have died in police custody, either as a result of an assault by fellow detainees, police officers or suicide.

The deaths of children in facilities operated by the DSD and the Department of Education (DoE) do not appear to be reported in the national and provincial annual reports. The only reliable system-wide information in respect of deaths of children in custody is available from the DCS and is presented in Table 2. The deaths recorded are for both natural and unnatural causes (murders, suicides and accidents). The distinction between natural and unnatural deaths is also problematic. For example, a prisoner may become HIV-positive after a sexual assault. If he ultimately dies of AIDS, the death will be recorded as natural. A death may also be the result of poor medical care, but will be noted as due to natural causes. These figures are also subject to questioning as the category 15-19 years of age include 19-year old individuals who are legally adults. Despite these limitations, it does appear that there is a downward

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<th>Deaths in custody cases</th>
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<td><strong>Case 1:</strong> M died in the Knysna police cells on 10 March 2001. M had been arrested on Friday 9 March 2001 on a charge of housebreaking and theft. He was detained and placed in a cell at the Knysna Police Station. Initially he was alone in the cell, but in the early hours of the morning of Saturday 10 March 2000, another detainee aged 18 years, was placed in the same cell. He was charged with drunkenness, resisting arrest, attempting to escape and refusing to furnish a police officer with his name and address. At about 03h05 on 10 March 2000, police officers found the cell covered in blood. M had apparently been battered to death. His 18-year-old cell-mate was charged with murder (Parliamentary Monitoring Group, 2002).</td>
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<td><strong>Case 2:</strong> A 16-year-old youth, who was arrested and taken from his home without the knowledge of his parents, died in the cells at Mara Police station, where he was locked up with adult inmates who were awaiting trial on charges of serious and violent crimes (Van Der Merwe, 2005).</td>
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<td><strong>Case 3:</strong> Mkhuhlu - Mpumalanga authorities are investigating a possible police cover-up after a teenager accused of shoplifting died in custody. Walter Mhlanga, aged 14, died on June 12 after allegedly repeatedly bashing his head into the wall of a police cell in Skukuza, in the Kruger National Park. The youth was arrested after stealing two bottles of cooking oil and two tins of fish from a spaza shop in his home village of Cunningmore, near Hazyview. Mhlanga, from Cunningmore, near Hazyview, was arrested on May 3 and released on R250 bail after appearing in the Mkhuhlu Magistrate’s Court on May 5, charged with shoplifting (Mhlanga, 2009).</td>
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<th>Table 2. Deaths in custody; prisons 2000 to 2008</th>
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<td><strong>AGES</strong></td>
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<td>10 - 14 Years</td>
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<td>15 - 19 Years</td>
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<td><strong>Total</strong></td>
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trend since 2004. This trend correlates with the number of deaths in the total prison population. Accurate information on lethal and non-lethal self-harm is not available but from the available information there is reason to believe that this happens on such a scale that there is reason for concern, as noted in the case of the George Hofmeyer School discussed below. A study conducted in New Mexico found amongst 64 respondents, aged 11 to 18 years, at the Bernalillo County Juvenile Detention Centre that 46% reported suicide ideation and 32% has already attempted suicide (Smith, 1998).

**Torture and assaults**

Children in various custodial settings are occasionally the victims of direct assaults by officials. Such instances meet the requirements of torture as defined in Article 1 of CAT. Events at the Ethokomala Reform School (Mpumalanga) in 2007 attest to the assault of children by employees and the police (Centre for Child Law v MEC for Education Mpumalanga, 2007). The case came to light as a result of legal action by the Centre for Child Law on behalf of a group of children after a psychologist at the school reported the situation to Childline. The founding affidavit describes a situation where children at the reform school were ‘beaten up’ on a regular basis by persons employed as child care workers, although there was reason to believe that they were not qualified as such. One of the boys, who were assaulted after he was in a fight with another boy, described it as follows: “They hit me with a lock, plank and their fists. They tied a belt around the lock and then they hit me with it. The mark where they hit with the lock is still on my face.” Another boy described his experiences as follows: “The first time they beat [me] was for smoking. They were first hitting other children and then they came to me into my room and they began hitting me. They hit me with their fists, they kicked me and they hit me with a ‘flat hand’ on my bare back. They were four adult men hitting me. First two began hitting me, [and] then the other joined in”. Both boys were reportedly denied medical attention following the assaults. One of the boys was so traumatised by the assault that he was refusing to eat for fear that the ‘child care workers’ may poison his food. The boys’ descriptions of the assaults are confirmed in a statement by the psychologist to Childline: “She says the children were beaten with different kinds of weapons; the children were bleeding with open wounds on their heads and [their] faces are swollen and bruised; their bodies are bruised all over.”

Following the assault of the first two boys, a group of nine boys were arrested at the school and in the process reportedly assaulted by the police and the ‘child care workers’. The police were reportedly called in to “conduct a raid” at the school and an exchange of insults ensued between the police and the children. The boys were all charged with assault and taken to Bethal prison.

From the events described above, it appears that the assaults were motivated by the intention to inflict punishment and therefore meets the requirements in the definition of torture. The assaults were committed by public officials; they were intentional; severe physical and/or mental harm was caused and the injuries were not the result of a lawful action. Further, the fact that objects (locks, belts and planks) were used to commit the assaults adds to the severity of the crimes committed. It is perhaps a small miracle that no fatal injuries were sustained by the children. It is regrettably the situation that South Africa is yet to criminalise torture in domestic legislation as required by Article 4 of CAT. The danger created by the lack of oversight and effective investigations is also demonstrated throughout this case. There was no independent body of persons who would visit the school announced and unannounced and hear complaints from the children in confidence. The consequence was that the staff acted with impunity and believed themselves to be above the law.
Assaults are, however, not only committed by officials but also by fellow detainees; be they adults or other children. While it can be argued that such assaults are not committed by state officials and therefore fall outside the definition of torture, it is equally true that by omitting to maintain safe custody, the state remains liable for the harm caused. If an official knows there is a risk that an assault by a fellow detainee may happen, but does nothing to prevent such an assault, the state and the official remain liable by omission. This would also apply, according to the UN Special Rapporteur on Torture, to inter-prisoner violence (UN Special Rapporteur on Torture, 2010). In the prison environment violence is often associated with the prison gangs, although care should be taken not to ascribe all inter-prisoner violence to the gangs.

**Harsh conditions of detention**

Conditions of detention are important because they affect the overall experience of the particular detention environment. Conditions of detention are the result of a complex interaction between physical features (the infrastructure) and more dynamic variables such as human resources capacity and the willingness to address problems. Poor conditions of detention are firstly a violation of the right to dignity and may hold severe consequences for personal health and well-being, as has been confirmed by the European Court of Human Rights in *Kalashnikov v Russia* (ECtHR Application 47095/99, para 102). Further, poor conditions lead to frustration amongst both detainees and staff, increasing the potential for violent confrontations. In South Africa’s prisons, overcrowding has remained a persistent problem for decades and there is little doubt that this has affected the detention conditions of children. Fortunately the number of children detained in prisons (sentenced and unsentenced) has declined rapidly as noted above. Despite this, conditions of detention vary greatly between prisons and a 1997 report on children in prison reflects as much (Community Law Centre, 1997). For example, while the Correctional Services Act Regulations are clear that every prisoner must have a bed, the Judicial Inspectorate found that children at Kimberley prison were not provided with beds due to overcrowding (Office of the Inspecting Judge of Prisons, 2008). There are perhaps few police stations across South Africa that provide conditions of detention consonant with human dignity and appropriate to children. Police cells are typically bare, with few amenities and little along the line of child-appropriate features. For a child to be detained in such facilities for up to 48 hours whilst barely supervised may indeed amount to ill treatment.

Harsh conditions of detention were the subject of a case brought against the Member of the Executive Council (MEC) for Education (Gauteng Provincial Government) concerning children detained at the Luckhof High School, a school of industries. The court described the conditions of detention as follows:

“All three hostels are in varying degrees of physical deterioration. Most dormitories have no windows. The floors are in poor condition and there are no cubicles to provide privacy in the showers and in some instances no doors to toilets. There are broken windows and broken ceiling boards in the dormitories, meaning essentially that children are exposed to inclement weather in their sleeping quarters. At this time of the year (June), and especially at the present moment, Gauteng experiences a windy season and a particularly cold snap, with temperatures dropping after sunset to zero degrees and less. There appears to be no heating in the dormitories at all, and in some instances there is no electricity. The children’s beds consist of old dirty foam mattresses on old bed stands. Some of the beds examined
had sheets and one blanket, others had two blankets. The blankets are thin and grey, such as those used in the prisons. The bedding looks old and dirty. . . . Some of the children do not have proper clothing, because they sell their clothes to outsiders to obtain money for drugs. . . . It would seem, therefore, that the first applicant is correct in its submission that these children removed from their parents and made wards of the state, are now living in conditions which may be poorer than the conditions they were removed from” (Centre for Child Law and Others v MEC for Education, Gauteng (1)SA 223 (T), 2008).

The applicants pointed out that these conditions infringe the children’s rights guaranteed by section 28 of the Bill of Rights, as well as their rights to human dignity in section 10, and the right not be subjected to cruel, inhuman and degrading treatment in section 12. In order to remedy the situation, the Centre for Child Law asked the court, inter alia, to order the MEC for Education to immediately provide each child with a sleeping bag as protection from the extreme cold (Muntingh, 2008).

Solitary confinement and detention

Solitary confinement of children is prohibited under Rule 67 of the UNJDLs. The UN Committee against Torture has recommended its abolition in respect of all people deprived of their liberty (Nowak & McArthur, 2008). It can therefore be accepted that any form of solitary confinement, unless at own request, is undesirable in respect of adults and particularly in the case of children. Prior to the 2008 amendment of the Correctional Services Act, provision was made for solitary confinement as a disciplinary sanction, but required that it must be confirmed by the Inspecting Judge before being implemented. No distinction is made between adults and children in this regard. The Act also provided for ‘segregation’ intended as a short-term measure used by Heads of Correctional Centres to stabilise a volatile or violent situation. There is, however, reason to believe that this was abused and effectively resulted in solitary confinement without the requisite procedural safeguards, such as being reported to the Inspecting Judge. The 2008 amendment repealed the section dealing with solitary confinement; solitary confinement is now euphemistically referred to as ‘segregation with loss of amenities’ under a general provision on segregation. The amendment still makes no distinction between adults and children.

In respect of CYCC, the draft regulations to the Children’s Act prohibits ‘isolation’ unless for medical or immediate safety concerns. The National Norms and Standards for CYCC provides additional detail stating that isolation can be used only if the child “cannot be managed and is deemed a danger to him or herself or other” and then for no longer than two hours. Events at the Ethokomala Reform School, illustrates that solitary confinement was used and the resident psychologist described it as follows (Centre for Child Law v MEC for Education Mpumalanga, 2007):

“As I stated above the children were locked in the isolation room after the assault. The isolation room is a filthy room, which although it has windows is dark. The room has no working toilets and the stench makes the children sick” (para 7)

“. . . I would like to elaborate on the use of the isolation rooms as punishment. The children are also locked in dark rooms, called isolation rooms. More than one child may be locked in the room at a time. The children are locked in the isolation room from between one and three days. It depends on which shift locks them up. If a child is locked in on a Friday they will stay there the whole weekend until a new shift starts on the Monday” (para 28).
Incommunicado detention must be distinguished from solitary confinement, as nobody, apart from the officials, has contact with the detainee (Nowak & McArthur, 2008). There is no justification for preventing children from communicating with their families while being detained, yet this appears to be utilised as a means of maintaining discipline. Investigations at the George Hofmeyer School, a school of industries for girls, found an institution violating children’s rights in a number of ways. One of which was to restrict children’s access to their families if they had been found guilty of disciplinary transgressions. The curator ad litem report describes it as follows: “The 5th to 11th Applicants are starved of contact with their families. Unlike the other hostels, the girls in Lowenburg [the punishment hostel] are not allowed to make outgoing calls. They are in study sessions from 6.30 till 9.00 at night, and cannot take calls during this time” (Curator Ad Litem, 2005, p. 10). Although a direct link cannot be drawn with incommunicado detention, it was reported from the same school that self-harm in the form of cutting was common amongst the girls detained there and was one of the ‘transgressions’ for which they were placed in the punishment hostel (Curator Ad Litem, 2005, p. 11).

Illegal and inappropriate means of maintaining discipline

It is frequently children with behavioural problems who end up in places of detention and consequently pose significant challenges to the staff in maintaining order and discipline (Smith, 1998, p. 63). Moreover, there is a strong link between children in conflict with the law and family problems, learning disabilities, abuse and neglect (Smith, 1998). Little attention is also paid to the mental health of children in detention and this may contribute to disciplinary problems, self-harm and aggression (Calvert, 2004; Smith, 1998). Without proper guidance and training, staff may resort to a variety of inappropriate and illegal means to maintain discipline. While some of these techniques may involve physical punishment, others may not, but both undoubtedly create an environment conducive to the violation of children’s rights. It is therefore with good reason that the Children’s Act, Draft Regulations and National Norms and Standards pay particular attention to discipline and prohibits a range of “behaviour management actions” such as physical punishment, group punishment and physical restraint (DSD, 2009). The use of corporal punishment in state institutions remains a persistent problem despite it being illegal and outlawed (Waterhouse, 2007). One form of punishment reported from the George Hofmeyer School was described as follows: “… several of the Applicants made allegations that the Principal used to order other girls to sit on each of their arms and legs, and he would then force them to talk or give him information” (Curator Ad Litem, 2005, p. 13). The use of restraint must be a measure of absolute last resort and research findings indicate that children who have been physically restrained experience it as an anger-invoking incident and that staff are also adversely affected by restraint incidents (Smith & Bowman, 2009).

A variety of illegal practices at the George Hofmeyer School were reported by the curator ad litem which included physical punishments (hitting and banging of heads); humiliation or ridicule (including being required to strip in front of others and being called whores once their underwear was revealed); deprivation of access to parents and family; being placed in the punishment hostel for being in a lesbian relationship; and frequent verbal abuse, which included swearing and ridicule (Curator Ad Litem, 2005).

When staff members at institutions feel that they are not able to handle the children, calling the police in to arrest the children is another option: “In that instance, the seven girls [names] were arrested on 14 February 2005 because they had been sitting on the roof and spent four days in police cells. They were released back to the School on 18 February
after the attorneys began the process towards a High Court application” (Curator Ad Litem, 2005, p. 10). In the above it was also noted that the Ethokomala Reform School also called the police in when some of the boys were involved in a fight and they were reportedly assaulted by the police.

Separation of categories
International instruments dealing with detention (e.g., the UNJDLs and the UN Standard Minimum Rules for the Treatment of Prisoners) require that children must be detained separately from adults and domestic legislation and policy (e.g., the Constitution, Correctional Services Act and the SAPS Standing Orders) confirm this. Further separations in respect of sentenced and unsentenced, male and female, and risk category are also provided for in law. The separation of different categories of detainees is required to promote safe custody and especially in the case of children, this is critically important. In reality, however, this is not always adhered to as some young adults may appear to be under the age of 18 years or vice versa. This has been noted as a problem in South African prisons due to problems with age determination in the criminal justice system (Community Law Centre, 1997). Placing young adults with children in police cells have also been noted to occur, often with tragic consequences. A case from the Westville prison attests to the results of not strictly enforcing the separation of children from adults:

“An internal investigation will be launched at Westville Prison following rape allegations of a 15-year-old boy who is awaiting trial. The boy was allegedly repeatedly raped by an inmate. He was arrested for shoplifting a pair of trousers and released into his parent’s custody. But he failed to appear for a court hearing and was rearrested. Correctional Services spokesman Manelisi Wolela said the boy was arrested last month and kept at the juvenile section. “He reportedly fell sick the next day and was admitted to the hospital section at Medium B where a single offender allegedly abused him.” Wolela said the perpetrator was positively identified. A criminal case had been opened against him and he would face internal disciplinary action” (Memela, 2008, p. 19).

Assaults and sexual assaults inflicted by fellow detainees are not uncommon and there is thus a special duty on staff members to be vigilant, even when legally required separations are adhered to. There is evidence that sexual victimisation in prisons is profile-driven and inmates displaying certain characteristics are more vulnerable to aggression, making them more likely to be ‘turned’ into the feminine character (Cronan, 2008). Targets are usually those who are least able to defend themselves, who lack credibility with prison staff or are disliked by inmates and staff and those who are easily ostracised (Dumond, 2006). Lack of knowledge of the prison and gang system, youthfulness, economic circumstances, weaker physical attributes, reluctance to engage in violence, conviction for a crime lacking the element of violence, and aesthetically pleasing looks, are all factors which contribute to a prisoner’s risk profile and possible assignment to the female gender. Research on victimisation by fellow detainees in CYCC does not appear to be readily available, but it can be safely assumed that there will be commonalities between the drivers of violence in prisons and in CYCC.

Trafficking
The extent to which children fall prey to trafficking in places of detention is uncertain. The only reliable information on this emanates from the Jali Commission’s investigations into prison corruption and the treatment of prisoners (Jali Commission, 2006). The screening on national television of a prisoner-made video at Grootvlei prison showed how a prison warder procured the sexual services of a juvenile prisoner for an older inmate. The Jali Commission found ample evidence of warders involved directly in raping young prisoners and being complicit in trafficking juvenile prisoners (Jali...
Commission, 2006). The extent to which the DCS and any of the other responsible departments are able to utilise the Criminal Law (Sexual Offences and Related Matters) Amendment Act 2007 to deal with sexual violence in custodial settings is uncertain and will require further research.

RECOMMENDATIONS
The above has shown that there are significant gaps in the recording of deaths and injuries of children in places of detention. The responsible departments need to report disaggregated data on how many children die and are injured, the results of investigations, and steps taken to prevent recurrences. While official data is important, there is also the need to undertake victimisation surveys with children deprived of their liberty to measure the accuracy of official data. It is recommended that data in this regard is collected according to the twelve indicators on violence against children deprived of their liberty developed by UNICEF and the UNODC and set out in Table 1.

The absence of legislation criminalising torture in South Africa remains a critical shortcoming as common law offences such as assault and assault with intent to cause grievous bodily harm are insufficient to prosecute perpetrators of torture. An important consequence of this legal shortcoming is that staff working with detained persons, including children, are not trained regarding the prohibition of torture and ill treatment, as is required by Article 10 of CAT. In the case of staff working with children this is of particular importance. The enactment of comprehensive legislation dealing with torture is urgently needed.

Rigorous and comprehensive staff training must be undertaken to ensure that all staff working with children in detention facilities are able to perform their duties properly and to ensure that unsuitable and/or unqualified staff are not permitted to work with children. In addition to training regarding the absolute prohibition of torture and ill treatment, the following are regarded as key recommendations to ensure suitable and qualified personnel:

- All staff should oppose and report corruption.
- Staff should ensure the full protection of children’s physical and mental health.
- Staff should respect children’s right to privacy and safeguard confidential matters.
- Training on child welfare and children’s rights should be provided and ongoing.
- The staff ratio should be sufficient and consistent across all facilities where children are detained (Martynowicz, 2009, p. 91).

Article 11 of CAT requires the regular review of rules, instructions, methods and practices as well as arrangements for the custody of all detained persons. Having appropriate and relevant policies and procedures in place is essential to ensure the safe custody of all prisoners and children in particular. The above cases have demonstrated several instances of policy gaps as well as policy vagueness.
and uncertainty. Such policies and procedures must be informed by emerging knowledge as well as incidents where children were harmed with a view to prevent a recurrence of such incidents. The importance of regular policy and procedure review was also confirmed in an extensive review of child detention in the Republic of Ireland and concluded that:

“All detention facilities should have up-to-date child protection policies and procedures in place, made available to staff, children and their parents or guardians. There must be a child friendly version made available to all children on admission” (Martynowicz, 2009, p. 90).

While the JICS has achieved much to promote transparency and establish oversight in the prison system through its ICCV, police cells and CYCC remain without similar oversight mechanisms. Years of research and experience in the prevention of torture in other jurisdictions have demonstrated that visiting and monitoring places of detention is the most effective mechanism in preventing torture and ill-treatment (Ludwidge, 2006). Independent oversight mechanisms need to be established for especially police cells and CYCC.

The promotion of transparency should be seen within the context of the duty placed on states parties by Art. 13 of CAT to ensure that any individual who alleges that he or she has been subjected to torture and ill treatment has the right to complain to and have the case promptly and impartially examined by its competent authorities. Moreover, the complainant and witnesses must be protected against ill treatment and intimidation.

Art. 12 of CAT places a duty on states to investigate complaints of torture and other ill treatment. Whenever there are ‘reasonable grounds’ to believe that torture and/or other ill treatment has taken place, the state has a duty to ensure that this is promptly investigated by competent authorities in an impartial manner. The threshold of ‘reasonable grounds’ for initiating an investigation is important, as it does not require a complaint to be lodged by the victim. Victims often do not report victimisation for fear of reprisal, or they are not able to complain. For the purposes of initiating an investigation, it really does not matter where the suspicion comes from (Burgers & Danelius, 1988). Undertaking investigations promptly is equally important. There are, however, no international guidelines as to what ‘prompt’ means but it has been interpreted to require an investigation “in the immediate aftermath of the incident, when memories are fresh” (Assenov and Others vs Bulgaria, 1999, p. 23). A high premium is furthermore placed on the impartiality of the investigation, as this is central to its credibility remaining intact. The term ‘impartiality’ means free from undue bias and is conceptually different from ‘independence’, which suggests that the investigation is not in the hands of bodies or persons who have close personal or professional links with the alleged perpetrators. The

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<th>The right to complain, the duty to investigate and the right to redress under CAT</th>
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<td><strong>Art. 13</strong> Each State Party shall ensure that any individual who alleges he has been subjected to torture in any territory under its jurisdiction has the right to complain to, and to have his case promptly and impartially examined by, its competent authorities. Steps shall be taken to ensure that the complainant and witnesses are protected against all ill-treatment or intimidation as a consequence of his complaint or any evidence given. <strong>Art. 14</strong> (1) Each State Party shall ensure in its legal system that the victim of an act of torture obtains redress and has an enforceable right to fair and adequate compensation, including the means for as full rehabilitation as possible. In the event of the death of the victim as a result of an act of torture, his dependants shall be entitled to compensation. (2) Nothing in this article shall affect any right of the victim or other persons to compensation which may exist under national law.</td>
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two notions are, however, closely interlinked, as a lack of independence is commonly seen as an indicator of partiality (Redress Trust, 2004).

**Key messages**

- All institutions dealing with children deprived of their liberty must fully acknowledge in policy and practice the risks posed to children through the deprivation of liberty and draw on the wealth of information and experience developed internationally in the prevention of torture and other ill treatment in custodial settings.
- Information systems must be in place to collect accurate and up to date data on the treatment and conditions of detention of children under any form of detention.
- South Africa’s obligations under the UN Convention against Torture must be actively promoted with all government departments, individual institutions, professional bodies and non-governmental organisations working with children deprived of their liberty. The obligations under the Convention and measures to prevent torture and other ill treatment must be part of the training curricula of staff working with children in detention situations.
- All places where children are detained must be subject to independent oversight in the form of regular announced and unannounced inspections by independent persons.
- Whenever there is reason to believe that a child in detention has been subjected to any form of torture or other ill treatment, this must be thoroughly investigated and, if necessary, criminal charges be laid against the alleged perpetrators.

Art. 14 of CAT ensures the right of victims of torture to obtain redress. The nature and scope of redress is guided by *UN Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law* (2006). Redress should address the following: restitution, compensation, rehabilitation, and guarantees of non-repetition.

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SUICIDAL BEHAVIOUR

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ABSTRACT

In South Africa, suicidal behaviour in the younger generations has become exponential, constituting a major public health problem. National preventative programmes, strategies and priorities in many other countries have been developed, but in South Africa this is still needed. This Chapter discusses comparative epidemiological trends in suicidal behaviour to obtain a better understanding of the South African situation on the one hand, and on the other, to assist in planning and implementing effective preventative strategies, as well as research and policy priorities to reduce suicidal behaviour in young people. Suicidal behaviour can range from being lethal, with high intent to die (fatal suicidal behaviour) to non-lethal attempts (non-fatal suicidal behaviour) with low or no intent to die. Figures reflect only a part of the problem, and reported prevalence rates are diverse. Data must be interpreted with caution when making cross-national, cross-cultural and cross-regional comparisons. Suicidal behaviour among children aged 10 years has been reported, but most occur in the 15-19 year age group, followed by the 10-14 year age group. About 9.5% of non-natural deaths in young people are because of suicides and 10 to 20 times more non-fatal suicidal behaviours occur per year. Weekends and year-end are high-risk periods. Leading suicide methods are: hanging, poisoning (including overdose with medical substances), firearms, gassing and fenestration (jumping from high places). In non-fatal suicidal behaviour, overdose and self-lacerations are most common. Between 4% and 47% of school children surveyed expressed suicidal ideation. There is a female preponderance in non-fatal suicidal behaviour compared with fatal suicidal behaviour, where males predominate. Risk factors and aetiology are multifactorial and multidimensional. They include: the influence of the mass media and information technology, imitation or copycat effects, dysfunctional family dynamics, poor problem-solving skills, neurobiological and genetic correlates, familial transmission, substance abuse, aggression, impulsivity, brain pathology, depression, acute and chronic stress, and various other psychopathological conditions. The high suicidal prevalence rates have considerable implications for mental health care facilities in the country. Early recognition of risk factors is important for the prevention of suicidal behaviour and the need to develop appropriate, cost-effective interventions. Regional suicide preventative programmes and service agencies are in place in some instances, but a national suicide preventative programme, which has already been recommended, is yet to be implemented.

Keywords: suicidal behaviour, youth, prevention

INTRODUCTION

In South Africa suicidal behaviour in the young has become exponential and constitutes a major public health problem with significant implications for mental health care facilities in the country (Burrows & Schlebusch, 2009; Schlebusch, 2004, 2005, 2011a). Age is an important socio-demographic marker for suicide mortality (Burrows, 2005), and following the lead of other international researchers (Apter,
Bursztein, Bertolote, Fleischman & Wasserman, 2009; Malone & Yap, 2009) in this Chapter, the term “young people” includes children and adolescents, because most South African studies tend to group them together. Where there are exceptions, these are noted. The objectives of this Chapter are to obtain a better understanding of suicidal behaviour in young South Africans on the one hand, and on the other, to assist in planning and implementing effective preventative strategies, as well as research and policy priorities to reduce suicidal behaviour in young people. To do so, it is important to:

a. Provide a definition of suicidal behaviour.
b. Give an overview of comparative epidemiological trends internationally and in South Africa, to consider methods of choice used in suicidal behaviour.
c. Examine risk factors which are multi-factorial and multidimensional.
d. Identify gaps in knowledge and make recommendations.

**DEFINING SUICIDAL BEHAVIOUR**

Although suicidal behaviour in the young can encompass an unambiguous act of self-demise, it can also include a heterogeneous spectrum of acts that can range from lethal attempts, with high intent to die (fatal suicidal behaviour) to non-lethal attempts (non-fatal suicidal behaviour), with low or no intent to die (Schlebusch, 2005). Suicidal behaviour is a process and suicidal ideation forms part of its evolution, i.e. thinking about engaging in it, writing or talking about it, or planning it (Schlebusch, 2005; Wasserman & Wasserman, 2009). In low intent suicide attempts (sometimes also referred to as parasuicides), young people might ingest a seemingly innocuous substance or engage in superficial acts of self-cutting, frequently as a cry for help or as an inappropriate problem-solving skill (Schlebusch, 2005). There have been many attempts to precisely define suicidal behaviour. One succinct definition of suicidal behaviour (Schlebusch, 2005) is given in the Box to follow.

**A definition of suicidal behaviour**

- Suicidal behaviour occurs in different forms that involve a degree of severity that can range from a person wishing him- or herself dead to actually killing him- or herself.
- It denotes a wide range of self-destructive or self-damaging acts in which people engage, owing to varying degrees of levels of distress, psychopathology, motive, lethal intent, awareness and expectations of the deleterious consequences or outcome of the behaviour.
- Suicidal behaviour is further divided into fatal and non-fatal suicidal behaviours.
- Given this, fatal suicidal behaviour refers to self-committed, completed suicidal behaviour that embodied the victim’s intent or aim to die and where that person managed to achieve that predetermined goal. As opposed to this, non-fatal suicidal behaviour refers to self-inflicted suicidal behaviour that did not succeed in ending the victim’s life, and which embodies several manifestations such as those seen in attempted suicide and parasuicide (Schlebusch, 2005).

**EPIDEMIOLOGICAL GLOBAL TRENDS**

Globally, suicidal behaviour in adults and children is an increasingly serious public health problem (Bertolote, 2001; Hawton & Van Heeringen, 2000; Wasserman & Wasserman, 2009). This trend has been observed in both high-income, as well as low-income countries, including all major ethnic groups in South Africa (Donson, 2008; Schlebusch, 2005). Nevertheless, researchers (Bertolote, 2001; Schlebusch 2005; Wasserman & Wasserman, 2009) caution that reported data must be interpreted with caution when making cross-national, cross-cultural and even cross-regional comparisons. Reasons for this include: variations in the reliability of statistics; differences in reported rates by different investigators; differences between reported rates per 100 000 of the population and the actual number of suicides in a particular country or region; and the fact that many studies are hospital and/or mortuary-based and therefore do not reflect the true magnitude of the problem and the hidden burden of
Suicidal Behaviour

suicidal behaviour, especially in rural areas. Under-reporting is also affected by a variety of other factors ranging from cultural, religious to socio-economic variables and research limitations.

Worldwide, approximately one million people of all ages die from suicide every year with an overall yearly rate of 14 to 16 per 100 000 suicides of the population (most recently 18 per 100 000 for males and 11 per 100 000 for females) (Bertolote, Fleischmann, De Leo & Wasserman, 2009; Schlebusch, 2005; World Health Organization [WHO], 1999). According to the WHO, this number will increase by 2020 to approximately 1.53 million people per annum (Bertolote, 2001; Bertolote et al., 2009).

About 10 to 20 times more suicide attempts occur per year (Bertolote, 2001), although in some regions these could be up to 40 times more frequent than suicides (WHO, 1999), giving an estimated fatal to non-fatal suicidal behaviour ratio that ranges between 1:10 and 1:40. Estimated figures suggest one death by suicide occurs every forty seconds and one attempt is made every one to three seconds. By 2020, these predictions are expected to increase worldwide to one death every 20 seconds and one suicidal attempt made every one to two seconds (Bertolote, 2001). This constitutes an approximate 60% rise over the last five decades, with suicide rates increasing by about 49% for males and 33% for females (Bertolote, 2001), and currently representing about 1.8% of the global burden of disease, a figure expected to rise to 2.4% by 2020 (Bertolote et al., 2009). Such figures indicate that, on average, more people globally die annually from suicide than they do during war (Bertolote, 2001).

Traditionally, suicide rates have shown a positive relationship with age, in that they tended to increase in older people (some six to eight times higher than in younger people), however, recent statistics show that, on a global spectrum, more younger people die from suicide than older people (Bertolote et al., 2009). When actual numbers and frequencies are considered in relation to age, from a global perspective, suicidal behaviour has tended to move from the elderly towards younger people. Statistics reflect the percentage of suicides by age group and sex on average in selected countries for males and females respectively, as 0.7 and 0.9 deaths per 100 000 in the 5-14 year age group as opposed to 12.7 and 13.3 in the 15-24 year age group (Bertolote, 2001). Currently, more suicides are committed by people in the 5-44 year age group (55%) than in the older age groups, while most suicides occur in the 35-44 year-old group for both males and females across the world (Bertolote et al., 2009). Given this downward trend in the age of clinical populations in both absolute and relative terms, sometimes referred to as the “ungreying” phenomenon (Bertolote, 2001), suicide is currently among the top five causes of death for both males and females in the younger age groups and becomes even more significant in light of the overall ageing of the world’s population (Bertolote et al., 2009). The global incidence of suicide in under 15-year-olds has, in fact, more than doubled since 1960 in both males and females (Malone & Yap, 2009).

The predominance of male over female suicide rates seems to have remained relatively constant, i.e. 3.2:1 (in 1950) to 3.6:1 (in 1995) and with a predicted 3.9:1 in 2020. China, with one of the highest suicide rates (up to 30% higher than in Europe), is the exception to this. There, female suicide rates tend, on average, to be higher than those of males (Bertolote, 2001; Bertolote et al., 2009). Such global figures usually include all age groups and do not always reflect differences between the various age groups, especially in low-income countries.
Epidemiological trends in Africa

Most research on suicidal behaviour in the young, focuses on high-income countries (Apter et al., 2009), but a steady flow of research (Schlebusch, 2011a; Schlebusch & Burrows, 2009) has shown that suicidal behaviour in both adults and the young has increased significantly in parts of Africa, a fact not always appreciated. There are several reasons for this lack of awareness, including (Schlebusch, 2011a; Schlebusch & Burrows, 2009) divergent cultural and religious perceptions of suicidal behaviour, in some instances it is a matter of social taboo, a crime, or being subjected to secrecy or negative socio-cultural sanctions, reduced trustworthiness of statistics and data compilation with a lack of standardised research designs and assessment instruments, and poor research infrastructure/collaboration. Consequently, not only do figures often reflect only part of the problem, but reported suicidal behaviour prevalence rates are also diverse. Furthermore, literature from many African countries is sparse (Apter et al., 2009; Schlebusch, 2011a). Accordingly, generalisations on the continent are difficult and only broad trend analyses are possible. Nevertheless, contrary to early publications that indicated low suicide rates in Africans, more recent data from a number of African countries suggest that, in many instances, it has the same prevalence across the world (Schlebusch, 2011a; Schlebusch & Burrows, 2009). When compared with those in the east and south, it seems lower in countries in the west and north of the continent. As in other parts of the world, studies (Schlebusch, 2011a; Schlebusch & Burrows, 2009) tend to report that the young are at increasing risk. For example, a lifetime prevalence-rate of attempted suicide of 14.3% has been found in high school students in Addis Ababa and studies from Butajira, Kampala, Ibadan and Benin City reported that non-fatal suicidal behaviours are common in the younger age groups, often precipitated by psycho-social difficulties and dysfunctional interpersonal relationships (especially with parents), (Schlebusch & Burrows, 2009). In Egypt, several studies (Apter et al., 2009) reported a high percentage of suicide attempts in the 15-44 year age group, crude rates of suicide attempts of 38.5 and of suicides of 3.5 per 100 000 of the population and the fact that the majority of attempted suicides tend to occur amongst young females in large, over-sized families.

South Africa

Reliable statistics on child and adolescent suicidal behaviour in South Africa are more readily accessible compared with elsewhere in Africa. Several rich sources of data are available. These include those listed in the Box below.

Data sources on epidemiological trends

- Numerous ad hoc studies (Schlebusch, 2005).
- The National Injury Mortality Surveillance System (NIMMS) (Donson, 2008).
- The Durban Parasuicide Study (DPS) that originated in 1978 (Schlebusch, 2005).
- As part of its global suicide prevention programme, the WHO’s Multi-site Intervention Study on Suicidal Behaviours (SUPRE-MISS) launched in 2002 (Bertolote et al., 2009) with Durban as its Africa research site.
- The latter two projects are under the research leadership of the author.

The community survey component of SUPRE-MISS (Bertolote et al., 2009) listed above consisted of research conducted with subjects in the general population of nine cities/towns on the five continents, viz.: Brisbane (Australia); Campinas (Brazil); Chennai (India); Colombo (Sri Lanka); Durban (South Africa); Hanoi (Vietnam); Karaj (Iran); Tallinn (Estonia); and Yuncheng (China). In total, 20 000 subjects who participated were interviewed, and the number of subjects per city varied from 500 to 13 810. Figures from these studies of suicidal behaviour in the young point to the seriousness of the nature and size of the problem and provide further support for the noted international “ungreyed” phenomenon in suicidal behaviour, which is also observed in South Africa.
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FATAL SUICIDAL BEHAVIOUR

Suicide prevalence rates in young people in South Africa in all major ethnic groups are a significant cause for concern (Donson, 2008; Schlebusch, 2005, 2011a; Schlebusch & Burrows, 2009). Studies indicate that, in some instances, suicide is the third-leading cause of death in the young (Schlebusch, 2005), although in 2001 more suicides occurred in the 15-19 year-old group than in the 10-14 year-old group. Data (Schlebusch, 2005) from 2002 revealed a similar trend, where the highest suicide numbers were in the 15 to 19 year age group, followed by the 10-14 year age group. Some studies (Bradshaw, Masiteng & Nannan, 2000) show that in South Africa in the 10-19 year age group more females (12%) than males (7%) commit suicide. Compared with the reported adult suicide rates internationally and in South Africa (generally reflect more male than female suicides), it is noteworthy that in young people, more young females than young males in South Africa commit suicide, although this requires further research (Schlebusch, 2005).

Disturbingly, according to some studies (Schlebusch, 2005), the average 9.5% non-natural deaths due to suicides in young people in South Africa is almost as high as the overall (including adult) suicide rate of around 11%. In 2007, the latter figure was similar (10.32%) according to a NIMSS report (Donson, 2008), which also showed that adult suicides peaked in the 25-29 year age group (16.24%), followed respectively by the 30-34 year age group (15.84%) and the 20-24 year age group (15.38%). Nearly 50% (47.64%) of all suicides recorded in that study were in the 20-34 year age group, but in young people most suicides occurred in the 15-19 year age group (8.35%), followed by the 10-14 year age group (1.57%), giving an average of nearly 10% (9.92%) in the 10-19 year age group. In the same study, a few suicides under the age of 10 were also recorded, while overall, the peak time for suicides was (06h00-20h00), mostly over weekends (Mondays – 16.4%, Saturdays – 14.6%, and Sundays – 14.5%) and towards the end of the year (December – 10.1%, September – 9.5% and October – 8.9%). These figures accord with earlier findings (Schlebusch, 2005) of suicides under the age of 10 years and that in South Africa, weekends and the end of the year, in the case of the latter and also because of examination pressures, are high-risk periods for suicidal behaviour in the young.

The leading choice of method in young people are: hanging, poisoning (including overdose with medical substances), firearms, gassing and fenestration (jumping from high places) (Donson, 2008; Schlebusch, 2005).

NON-FATAL SUICIDAL BEHAVIOUR

In South Africa non-fatal suicidal behaviour in the young is as serious a problem as is fatal suicidal behaviour. According to DPS (Schlebusch, 2005) and other findings (Schlebusch & Burrows, 2009) the 10-19 year age group is the second-most at-risk age group for non-fatal suicidal behaviour after young adults in the 20-29 year age group. Several studies (Schlebusch, 2005) have reported that up to one-third of all non-fatal suicidal behaviours involved children and adolescents, while others (Mhlongo & Peltzer, 1999) report high general hospital referral rates in the young for attempted suicides and parasuicides, in some as young as four years old (Schlebusch, 2005). Hospital-based research (Schlebusch, 2005) has noted a sharp rise in non-fatal suicidal behaviour in African youth aged 18 years and younger. In one study (Schlebusch, Vawda & Bosch, 2003) this group constituted 24.5% of the total sample of suicidal behaviour patients admitted to a general hospital.

Non-hospital-based South African studies (Schlebusch, 2005) have also reported wide-ranging non-fatal suicidal behaviour figures in the youth, some showing that between 4% and 47% of school children surveyed express suicidal ideation, whilst
one study amongst African youth in the Eastern Cape (Mayekiso & Mkize, 1995) reported that 18% had definite plans to commit suicide. In a study among secondary high school pupils in the Limpopo Province, parasuicide rates of 17% for boys and 13% for girls were reported (Peltzer & Cherian, 1998), while in another (Madu & Matla, 2003) conducted among African secondary school learners (where only 4.5% were from other ethnic groups), it was found that 37% of these surveyed thought of taking their lives, 17% had threatened to do so, 16% had made plans to commit suicide, and 21% had actually made suicide attempts. Such findings have important implications for school-based suicide prevention and school counselling programmes. Excluded from these cohorts, that represent groups that are not usually seen in hospitals, are suicidal behaviours in rural areas which are frequently not accounted for because they simply are not included in research samples. This contributes to a major dearth in our knowledge base.

The community survey component (in which subjects were at least 15-years-old) of the SUPREMISS study referred to earlier (Bertolote et al., 2009) showed a remarkable disparity across the sites where the research was done. This further illustrates how careful one must be when making national, international and/or regional comparisons. For example, the proportion of subjects in the general population that admitted to having had suicidal thoughts in their lifetime varied from 25.4% in Durban to 2.6% in Chennai, while subjects who planned a suicidal act varied from 15.2% in Durban to 1.1% in Hanoi. Compared to Hanoi, Durban had 13.8 times more subjects who planned suicide. When rates of planning suicides and attempted suicide rates were compared, they ranged from 80% in Chennai to 22% in Durban (i.e. in Chennai, 80% of subjects who planned suicide made an attempt compared to 22% of subjects surveyed in Durban).

Consistent with international research, South African studies (Schlebusch, 2005) generally report a female preponderance in non-fatal suicidal behaviour in the younger age groups (with an average female to male ration of 3:1), which is different from the male to female ratio in fatal suicidal behaviour in youngsters where males predominate. Leading choice of methods are 90% overdose and 10% other methods, which largely comprise self-lacerations (Schlebusch, 2005).

**RISK FACTORS**

Suicidal behaviour is a complex phenomenon across all age groups, and risk factors and aetiology are multifactorial and multidimensional. They are wide ranging and include psychiatric, psychological, biological, sociological, genetic, cultural, somatic, personality, substance abuse, family dynamics, interpersonal problems, stress and other variables (Hawton & Van Heerigen, 2000; Schlebusch, 2005; Wasserman, 2001; Wasserman & Wasserman, 2009). Space does not allow for an in-depth discussion of all of these here, so I shall focus only on a specific few areas, based on South African research findings in relation to international research.

**Imitation effects and suicidal transmission**

The influence of the mass media and information technology on vulnerable young people and suicidal behaviour has received considerable attention because of imitation or copycat effects (Hawton & Van Heerigen, 2000; Schlebusch, 2005; Wasserman & Wasserman, 2009). Such effects, however, also need to be correlated with other risk factors (Schmidtke, Schaller & Wasserman, 2001; Van Heerigen, Hawton & Williams, 2000). The term “Werther effect” derives from a character in Goethe’s novel, *The Sorrows of Young Werther* published in the eighteenth century. Soon after its publication, a spate of young people in Europe committed suicide in a similar way as the suicide of the novel’s hero, Werther. Various other examples of the imitation of suicidal behaviour have
been described. For example, suicide pacts that involve a mutual agreement between youngsters to kill themselves, usually at the same time and place and during times of religious persecution, political oppression, social upheaval and so on (Colt, 1991; Schlebusch, 2005).

In addition, modern communication methods are apparently increasingly tolerant of suicidal behaviour and the concept of suicidal transmission is becoming extremely relevant amongst young people who learn about suicide through mass media publicity (Bille-Brahe, 2000; Schlebusch, 2005). Furthermore, there are websites that graphically describe suicide methods and information technology and media development have created expanded opportunities to influence vulnerable young people thereby enhancing the contagious effects of suicidal behaviour (Hawton & Van Heeringen, 2000; Wasserman & Wasserman, 2009). Internet and cellular telephone use in South Africa have blossomed amongst young people and worrying trends about their influence on suicidal behaviour are clearly discernable in media reports. Although further research is required (Schlebusch, 2005), South African youth who are predisposed or vulnerable to suicidal behaviour through imitation effects appear to be the most vulnerable to these modern influences. On the positive side, the media and internet sites can play a proactive role in the prevention of suicidal transmission by not sensationalising coverage about suicidal behaviour and by providing information about available help (Schlebusch, 2005).

Family dynamics
South African studies (Schlebusch, 2005) frequently have reported on the important contributory role of family dynamics in suicidal behaviour, including on the following: significantly higher prevalence rates of family conflicts as recent stressors; marital problems between parents; partner relational problems between youngsters who are dating; other family problems (involving feelings of loss of support because of inadequately managed family change caused by parental separation, divorce and remarriage, adverse parent-child interactions, and parental bereavement); socio-economic pressures and financial problems in the family; inordinate stress; child abuse and sexual abuse or incest; family psychopathology such as a history of family members’ prior suicidal behaviour, substance abuse and other psychological disorders (notably depression) in family members; school-related and academic problems in young people (especially in a non-supportive or over-demanding family environment); exposure to family violence; inflexibility and poor cohesion in family functioning; rigid problem-solving behaviour and over-controlling parenting styles; a lack of tolerance for developmental or role changes in the young; over-involved or over-protective families who allow little or no room for individuation and developmental progression; self-punitive wishes in young people (involving dissatisfaction with parent-child relationships and the degree of family acceptance); high prevalence rates of violence and trauma in families; the influences of First World forces in an internationally less isolated, post-Apartheid South Africa, resulting in high expectations being placed on young people that are not always realised following transformation; and problems with acculturation. Not only should such risk factors be urgently addressed to prevent them from forming a breeding ground for potential suicide, but any preventative efforts should be undertaken within the context of respect for cross-cultural sensitivity. The latter, in particular, is a sine qua non, given South Africa’s diverse cultures.

These risk factors can be ongoing, with the suicidal behaviour occurring at a threshold point in the crisis build-up, indicating the young person’s inability to function appropriately within the family environment. A young person’s perceptions of suicidal behaviour
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may be a significant factor in this regard – giving rise to an unpremeditated, impulsive suicidal act in the face of a predominant interpersonal or family crisis. Dysfunctional cognitive schemata in children, caused by growing up with more unhappy than happy memories, can from a cognitive behaviour therapy perspective, lead to the later onset of depression and other psychopathology, all contributing to suicidal behaviour (Schlebusch, 2005). In addition, researchers (Schlebusch, 2005) have persistently cautioned that as children grow up, the prevalence of suicidal behaviour can increase dramatically during later childhood and adolescence if risk factors are not timeously identified and addressed.

Dysfunctional problem-solving skills
Suicidal young people are often poor at solving interpersonal problems (Hawton & van Heeringen, 2000; Schlebusch, 2005). In this context, suicidal behaviour has been viewed as an inappropriate problem-solving strategy and method of communication when young people feel unable to express their psychological anguish in a conventional manner, and when alternative attempts to deal with their problems, fail. Research data from the DPS group (Schlebusch, 2005) has provided ample support for the hypothesis, that in such instances (as part of the suicidal process), suicidal behaviour can be employed as a more desperate cry for help and a first-line, crisis-management technique by young people, often in the absence of overt psychological morbidity.

Since at least 80% of suicidal behaviours are preceded by either verbal or non-verbal behavioural cues that indicate the suicidal person’s intentions, the commonly held belief that young people who threaten to commit suicide are not serious about it, is an artefact (Schlebusch, 2005). According to South African research (Schlebusch, 2005), more than two-thirds of people who engage in suicidal behaviour communicate their intent to do so within three months preceding the suicidal act or consult their general practitioners for treatment for a psychological disorder (usually depression) at least two weeks before the suicidal act. This is consistent with international research which indicates that a substantial proportion of people who commit or attempt suicide have either indicated a need for help or have had some contact with a medical health professional (Pirkis & Burgess, 1998; Schlebusch, 2005). However, in South Africa, a significant number of suicidal young people do not have access to specialised mental health services or even a general practitioner at the time of a suicidal crisis, which is extremely disconcerting, given the gravity of the problem (Schlebusch, 2005).

Neuro-psychological and neurobiological correlates, genetics and familial transmission
Significant correlates of suicidal behaviour in young people are associated with personality functioning, involving substance abuse, emotional liability, aggression and impulsivity (Schlebusch, 2005). Of additional clinical importance, is that head injury and/or neuro-psychological deficits can be related to aggressiveness/impulsivity (Lishman, 2005) which also has a bi-directional relationship with substance abuse (especially alcohol) and suicidal behaviour (Mann, 2002). Moreover, brain pathology can trigger depression, suicidal ideation and disinhibition or lack of restraint (Lishman, 2005; Mann, 2002; Wasserman & Wasserman, 2009). Related ongoing work on neuro-imaging is enhancing the understanding of biological vulnerability in suicidal behaviour (Hawton & Van Heeringen, 2000; Wasserman & Wasserman, 2009), but there is a paucity of such research in South African youth.

Reduced serotonergic input to the orbital pre-frontal cortex (part of the brain involved in behavioural inhibition and decision making) may result in aggressiveness/impulsivity. In such instances, there are decreases in presynaptic binding sites in the
prefrontal cortex (altered receptor population) and serotonergic hypofunction which may be associated with more lethal methods of choice in suicidal behaviour (Hawton & Van Heeringen, 2000; Mann, 2002; Wasserman & Wasserman, 2009). Further, aggressiveness or impulsiveness are not only common co-morbid variables in suicidal behaviour, but can also be associated with violence. There is a link between suicidal behaviour and violence (Schlebusch, 2005) regarding certain lethal methods of choice. Themes that overlap include increased aggressiveness, impulsiveness, emotional liability, disinhibition, dysfunctional decision-making and reasoning, and an underlying biological or genetic predisposition that could result in increased aggressiveness and violent acting out and suicidal behaviour (Mann, 2002; Nock & Marzuk, 2000; Schlebusch, 2005).

The questions of a genetic component that can trigger suicidal behaviour, reduced cholesterol (being associated with reduced serotonergic activity and increased aggression), analgesic abuse and tobacco smoking have all been addressed in suicidology research (Mann, 2002; Schlebusch, 2005). In addition, patients who engage in suicidal behaviour often have a higher rate of suicidal behaviour in their families, and studies of familial transmission indicate that parents of youth suicidal behaviour victims have higher rates of suicidal behaviour, independent of the presence of psychopathology (Mann, 2002). Twin studies have demonstrated a higher concordance rate for suicidal behaviour in monozygotic compared with dizygotic twins and studies of adoptees who have engaged in suicidal behaviour have shown increased rates of suicidal behaviour in the biological parents of such adoptees, compared to controls, indicating familial correlates of suicidal behaviour in the young (Mann, 2002). Having stated that, it needs to be noted, though, and as emphasised earlier, that non-genetic co-morbid family variables can also significantly influence suicidal behaviour in young people.

Extended suicides and family murders

Extended suicide and murder-suicide are possibly some of the most extreme examples of the link between violence and suicidal behaviour (Nock & Marzuk, 2000; Schlebusch, 2005). An escalation in ‘crimes of passion’ and family murders have been reported in South Africa, where studies (Schlebusch, 2005) have examined the role of psychopathology and personality disorders (especially the dependent personality disorder) and the distinction between murder-suicide and extended suicide (Graser, 1992). In murder suicide, the family murder occurs primarily as an act of murder, and secondarily as a suicide, in order to avoid facing the legal consequences of the murder(s) of family members, whereas in extended suicide there is an original intention to commit suicide, but before doing so, the perpetrator kills the family as part of the planned extended suicide (Schlebusch, 2005), in line with international research (Felthouse & Hempel, 1995; Hawton & Van Heeringen, 2000; Wasserman & Wasserman, 2009). In South African research (Osborne, 2001; Schlebusch, 2005; Townsend, 2003) murder-suicide has been found to be constant across cultures, being more akin to suicides than homicides in which work-related stress and Post-Traumatic Stress Disorder (PTSD), as well as the availability of and familiarity with firearms, are common. Additional precipitators of family slayings cited in South Africa include socio-economic pressures, the trauma resulting from child abuse and various psychological factors or disorders including, personality disorders, depression and substance abuse (Schlebusch, 2005).

Two of the primary motives for suicidal behaviour include murderous impulses and a need to escape from unbearable psychological pain/anguish which can develop when love objects or social support systems are threatened, lost or become unobtainable (Schlebusch, 2005). This, in turn, can result in feelings of intolerable aloneness, severe hopelessness and intense self-contempt with murderous impulses being directed at the
threatened or unattainable love object, such as the immediate family. Murderous impulses may then be turned not only on the self, but through the processes of introjection and projection, also on the family, thus resulting in family murder as an extended suicide. Sometimes children are murdered as a first step to annihilate the family, but when there are surviving children, they are frequently the first to face the full horror of the events, and are often the ones who summon neighbours or the police. Clearly, the emotional sequelae of such experiences can have a devastating impact on the psychological health of the surviving children with future suicidal implications (Schlebusch, 2005).

Murder-suicide can occur amongst all cultural and ethnic groups (Felthous & Hempel, 1995), but early South African studies indicated that in the 1980s this predominated amongst white people (Roos, Beyers & Visser, 1992; Schlebusch, 2005). More recent South African studies reported more Africans to be victims of murder-suicides, which probably reflect the major ethnic composition of the geographical study areas (Osborne, 2001; Schlebusch, 2005; Townsend, 2003).

**Stress**

Acute and chronic stress are critical co-morbid aetiological variables in suicidal behaviour in both adults and children (Hawton & Van Heeringen, 2000; Schlebusch, 2000, 2005; Wasserman & Wasserman, 2009). Several stress-diathesis models, with significant advantages for treatment and prevention, have been advanced to provide a better understanding of the suicidal process and the interactive stress-related dynamics. Two such important models are a stress-diathesis model and a stress-vulnerability model. The stress-diathesis model comprises a comprehensive practical, explanatory and predictive model of suicidal behaviour (Mann, 2002). It proposes that the stress component includes factors such as a psychiatric disorder, as well as life events, and the diathesis includes elements like impulsivity, aggression, pessimism/hopelessness and neurobiological correlates and a range of other potential variables such as gender, religion, familial and genetic components, chronic disease, alcohol/substance abuse, traumatic childhood experiences and psycho-social support systems. This model can be supplemented by the stress-vulnerability model (Wasserman, 2001) that involves factors such as the suicidal individual’s cognitive style, personality, environmental issues, culture and various protective factors against individual vulnerability.

Additional considerations are sleep deprivation and dietary inefficiency because of potential effects on neurotransmitter functioning (Wasserman, 2001). Micronutrient deficiencies can have adverse psychophysiological consequences, more stress-related symptoms, progressively reduced stress tolerance (Schlebusch et al., 2000), and impact adversely on brain structures and memory which, in turn, may impair appropriate coping strategies in a suicidal person (Schlebusch, 2000, 2005; Wasserman, 2001). Inordinate stress can result in the secretion of endogenous stress hormones that affect how memories are laid down. Stress-related elevated cortisol levels, for example, are known to be toxic to the hippocampus (van der Kolk, McFarlane & Weisaeth, 1996), a brain structure that constitutes a major component of the memory system that has a primal role in learning, retention and rapid association of information received from different cortical areas (Lezak, Howieson & Loring, 2004). Stress, therefore, can have major implications for disturbances in various neurotransmitters (Wasserman, 2001) and neurohormones (van der Kolk et al., 1996), with significant co-morbid aetiological considerations for suicidal behaviour (Schlebusch, 2005), also in young people.

In addition, South African researchers (Schlebusch, 2000, 2005; Schlebusch & Bosch, 2002; Schlebusch
et al., 2003) have, amongst others, clearly documented:

- The role of dysfunctional perceptions in stress arousal associated with a range of psychological problems in young people, including suicidal behaviour.
- Suicidal implications of stress-related conflicts in social roles in young people from traditional backgrounds who have to cope with new roles and a more Western-orientated culture in a multicultural, South African society.
- Stress that can act as suicidal triggers precipitated by factors such as acculturation, socio-economic pressures, high crime and violence rates, human rights violations, difficulty to cope with the process of transformation, rising expectations, and an increasing competitiveness in education.
- A reduced appreciation of traditional roles and value systems in suicidal behaviour in the young.
- The effect on suicidal behaviour in the young of trauma-producing behaviours that result from emotional injuries sustained from exposure to direct or indirect violence.

Retrospective analyses (Schlebusch, 2005; Schlebusch & Burrows, 2008) of stress-related risk factors in South African youth have shown that repeated suicidal behaviour can increase in order to secure help, as attempts at non-fatal suicidal behaviour do not get the desired effect from significant others on whom the suicidal behaviour is supposed to impact (i.e. if the cry for help fails), and repeated attempts can result in more severe and lethal methods being used until the precipitators (causes) are appropriately addressed.

**Socio-economic correlates**

Durkheim, in his book Le Suicide, published as early as 1897, is probably the most well-known in this regard when he explained the variation in the frequency of suicidal behaviour by societal conditions and reactions to life’s difficulties (Durkheim, 1951). Although some studies on the relationship between socio-economic changes have produced divergent results, others have highlighted the impact on suicidal behaviour of both adverse socio-economic factors, as well as economic development (Schlebusch, 2005). Contemporary research (Wasserman & Wasserman, 2009) has shown that low socio-economic status increases the risk of suicidal behaviour, as do low educational levels and long-term unemployment. On the other hand, economic development can also result in social problems that can increase suicidal behaviour. Examples include reactions to major economic losses in families, increased pathological gambling, increased divorce rates, increased alcohol and drug abuse, increased health care costs that make it difficult for families to access this, weakening of family ties and social support, migration to urban areas and an increasing economic and social gap between the rich and the poor, resulting in high levels of frustration (Wasserman & Wasserman, 2009).

South African studies (Schlebusch, 2005) have found that the role of socio-economic correlates that contribute to suicidal behaviour risks in particular are: financial problems and associated feelings of loss of parental support, the effects of rapid urbanisation, an increased competitiveness in education and employment, as well as rising expectations in the young, as young people move away from traditional value systems and norms.

**Psychological disorders**

Across all age groups various psychopathological conditions have been shown as co-morbid factors in the aetiology of suicidal behaviour (Hawton & Van Heeringen, 2000; Wasserman & Wasserman, 2009). However, in the majority of suicides, there has been
at least one psychiatric disorder present and mood disorders (depression) and substance-use disorders, in particular, have been implicated (Bertolote, Fleischmann, De Leo & Wasserman, 2004; Lonnqvist, 2000; Wasserman & Wasserman, 2009). A similar diagnostic profile has been found in South Africa in all ethnic groups (Schlebusch, 2005), whereby as early as 1990, depression was considered such a major problem that a group of experts recommended a national treatment programme (Schlebusch, 1990). In a South African study amongst African youths on suicide and the prevalence of depression (Mayekiso, 1995), up to 38% of the sample was diagnosed as mildly depressed, 20% as moderately depressed and 13% as severely depressed.

Nevertheless, research findings show that mood disorders associated with suicidal behaviour are often clinically undetected in South African youth (Schlebusch, 2005). There are several reasons for this. In the young, clinical depression and suicidal ideation frequently tend to be more prevalent and/or severe with increasing age. The boundaries are sometimes unclear and can be influenced by developmental issues and age that affect the expression of depressive symptomatology. Children’s moods and risk for attempting suicide are also often associated with family discord, abuse and neglect (Sadock & Sadock, 2007; Schlebusch, 2005). South African research (Schlebusch, 2005) has indicated that there is some evidence that culture can modify the expression of depressive symptomatology in some groups. For example, not understanding certain traditional beliefs could obfuscate the diagnosis of depression, resulting in under-diagnosis of the condition, although exact data on this remains unclear (Schlebusch, 2005). However, experts do agree that a combination of the accompanying psycho-social, biovegetative and other dysfunction, and the intensity, severity and duration of the depressive symptoms are important markers when making an accurate diagnosis of the disorder (Kaplan & Sadock, 1995; Lasich & Schlebusch, 1999; Schlebusch, 1990, 2005).

Additional considerations with underlying psychopathology in young people include: school phobia, reduced socialisation (social inhibition), irritability, excessive clinginess to parents, poor academic performance, substance abuse, antisocial/conduct-disordered behaviour, running away from home, persistent sadness, heightened feelings of anxiety, anger, guilt and shame and sexual promiscuity (Sadock & Sadock, 2007; Schlebusch, 2005). Improved treatment modalities utilising both psychotrophic and psychological techniques (especially cognitive behaviour therapy) and parent counselling, offer significant opportunities to reduce suicidal behaviour in young people, but there is a high risk when suicidal individuals are considered to have responded to treatment and have not yet recovered completely and drop out of treatment (Schlebusch, 2005).

**Somatic co-morbidity**

There can be a relationship between physical disease and suicidal behaviour (Schlebusch, 2005, 2011c; Wasserman & Wasserman, 2009). For example, in some instances, a link has been shown between indirect self-destructive behaviour resulting in analgesic nephropathy (end-stage renal disease as a result of analgesic abuse), and suicidal behaviour and potentially life-threatening diseases such as cancer and HIV/AIDS (Schlebusch, 2005, 2011c). There is growing evidence of the long-term sequelae in childhood cancer that can contribute to suicide risk factors in adulthood due to the traumatic experiences of children with cancer as a result of hospitalisation, oncology treatment and altered social contact (Recklitis et al., 2010; Wasserman & Wasserman, 2009). However, knowledge in this area regarding young people remains sparse. Nevertheless, they can be psychologically severely affected should there be an adult suicide or attempt
PREVENTION, RESEARCH AND POLICY PRIORITIES

National prevention programmes and strategies have been developed in many countries (Wasserman & Wasserman, 2009). Although individual and regional suicide prevention programmes and service agencies are in place in South Africa, in some areas (Schlebusch, 2005), a national suicide prevention programme which has been recommended (Burrows & Schlebusch, 2008, 2009) has not yet been implemented. To prevent suicidal behaviour and promote mental health, a national programme for suicide prevention should provide a strategic framework for action at all levels, i.e. national, provincial, regional and local. The goals should include:

• Reducing suicide deaths and non-fatal suicidal behaviour.
• Reducing risk factors and promoting protective factors.
• Promoting early detection of new trends and a reversal of emerging problem areas.
• Promoting public awareness of suicidal behaviour, its causes and possibilities for prevention.
• Increasing support to individuals, families and communities affected by suicidal behaviour.

Specific objectives should include (Burrows & Schlebusch, 2008) improving research and national data collection systems and accurate information on suicidal behaviour; addressing social attitudes by increasing knowledge of suicidal behaviour to reduce stigma and discrimination; controlling the environment such as reducing the availability of and access to suicide methods, through gun possession control, detoxification of domestic gas, detoxification of car emissions, improved control of availability of toxic substances including pharmaceutical drugs, fencing high buildings and bridges, as well as toning down dramatic reports in the media that can have a copy-cat effect on the young; and providing social and medical support and treatment including crisis centres, telephone emergency lines, mental health and medical services. Training and promoting skills development should form an essential part of providing adequate support and treatment and achieving the objectives.

It has been proposed (Burrows & Schlebusch, 2008) that to achieve this, requires a framework based on a set of guiding principles and a range of strategies that should be pursued through health care services or directed at the general population. Important principles include the creation of partnerships and alliances with the community, professional groups, NGOs and government sectors; using a diversity of approaches; targeting the whole population, specific population subgroups and individuals at risk; developing an evidence-based and outcome-focused programme, with ongoing research and evaluations as an integral part; developing activities that are appropriate and responsive to the social and cultural needs of the groups or populations they serve; developing a rights-based approach as people have a right to be involved in determining their future; and building on strengths, capacities and capabilities of individuals, families and communities.

It is critical to have a thorough understanding of the risk factors and causes of suicidal behaviour in order to deal with them. A primary strategy for suicide prevention is the recognition and effective treatment with both pharmacological and psychological methods of depression and other underlying psychopathology that often go undetected in young people and contribute to suicidal behaviour. It is also essential that school children and students be trained to identify and manage conflict situations and crises that could result in suicidal behaviour. Stress management is particularly important in this
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respect (Schlebusch, 2000). Regarding child and adolescent mental health policy, introducing a multi-level system with the first tier incorporating schools is important. Risk factors in families, children and students need to be identified. Educators should be made aware of suicide risk factors, such as dysfunctional family backgrounds, problematic relationships, changes in living conditions and potential psychopathology in the young. The fact that there are no school counsellors in many schools should be addressed, as this has a negative impact on the mental health of learners at risk for suicidal behaviour, and who could utilise school counselling services. Close co-operation between educators and health service providers is strongly recommended. Finally, suicide prevention efforts need to take cognisance of the numerous stressors that a country in transition presents to its youth, and local data collection and collaborative research need to be strengthened and sustained to improve prevention efforts on an ongoing basis (Burrows & Schlebusch, 2008; Schlebusch, 2004, 2005).

CONCLUSIONS
Suicidal behaviour and/or suicidal ideation in the younger age groups in South Africa are inordinately high. This has considerable implications for mental health care facilities in the country. In many cases of suicide, threats or non-fatal suicidal behaviour, parents and other adults do not always take the behaviour seriously for various reasons. They often consider it as mere gestures or threats to manipulate, or because they want to avoid publicity and social embarrassment. This can only make the situation worse and increase the number of fatal suicidal behaviours. Given the research findings, the severity of the problem in young people in South Africa should not be underestimated. The loss of one young person through suicide, is one too many. The faces of the youth need to be filled with hope, not hopelessness which is the link between suicidal ideation and acting on it. Early recognition of risk factors are important for prevention of suicidal behaviour, as is the need to develop appropriate, cost-effective therapeutic interventions and research, as well as policy priorities.

Key messages
- Suicidal behaviour in the young can range from lethal attempts with high intent to die (fatal suicidal behaviour) to non-lethal attempts (non-fatal suicidal behaviour) with low or no intent to die.
- Low intent suicidal behaviour is often a cry for help or an inappropriate problem-solving skill.
- Globally and in South Africa, suicidal behaviour, in the young is an increasingly serious public health problem, which has considerable implications for mental health care facilities in the country.
- In South Africa, about 9.5% of non-natural deaths in young people are because of suicides and ten to twenty times more non-fatal suicidal behaviours occur per year.
- Week-ends and year-end are high risk periods.
- Most common suicide methods are: hanging, poisoning (including overdose with medical substances), firearms, gassing, and fenestration (jumping from high places). In non-fatal suicidal behaviour, overdose and self-lacerations are most common.
- Risk factors are multifactorial and multidimensional, and their early recognition is important for prevention of suicidal behaviour.
- Regional suicide prevention programmes and service agencies are in place in some instances, but a recommended national suicide prevention programme, has yet to be implemented.

Leading prevention and/or service agencies active in South Africa
- South African Depression and Anxiety Group (SADAG).
- Lifeline Southern Africa.
- Samaritans/Befrienders Worldwide.
- Local/regional mental health experts and hospitals with psychiatric/psychological facilities.
- International Association for Suicide Prevention (IASP).
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ABSTRACT
Alcohol and drug use among children and adolescents are causes of increasing concern in South Africa. They are major contributors to crime, violence and intentional and unintentional injuries, as well as to other social, health and economic problems. This Chapter focuses on children, including adolescents, up to the age of 18 years. Children’s and adolescents’ substance use can be accounted for by a multiplicity of factors at the societal, community, school, familial and individual levels. A combination of universal, selected and indicated intervention strategies are needed to prevent their substance use problems. In addition, effective specialist services, although inadequate in South Africa, are essential for treating young people who already have substance use disorders. While there is much evidence regarding regulatory interventions that are most effective in reducing substance use problems, many barriers to their implementation exist. Further research to improve understanding of various aspects of young people’s substance use and its relationship to crime and violence is needed. Of particular importance are more studies that can shed further light on the factors that constitute protective factors for substance use, and the kind of non-regulatory strategies that can be effective in reducing levels of substance use among children and adolescents in South Africa.

Keywords: substance use, children and adolescents, prevention strategies

INTRODUCTION
The use of psychoactive substances by children and adolescents globally and in South Africa is of major concern, particularly, given young people’s increased access to legal and illegal substances, increases in rates of use of certain drugs, and resultant unintentional and intentional injuries and other problems (Flisher, Mathews, Mukoma & Lombard, 2006; Jernigan, 2001; Parry et al., 2004b). Globally, based on 2004 figures, an estimated 3.8% of all deaths were attributable to alcohol (with 6.3% for men and 1.1% for women; Rehm et al., 2009). Of all alcohol-related deaths among men, 27.3% and 11.4% were attributable to unintentional and intentional injuries, respectively, and among females, the figures were 24.8% and 9.0%, respectively. Rehm et al. (2009) estimated the global alcohol-attributable
burden of disease (in terms of disability-adjusted life-years [DALYs] lost from death and disability) to be 4.6% (with 7.6% for males and 1.4% for females); highest among those aged 15-29 years. For males, unintentional and intentional injuries accounted for 25.4% and 10.7% of all alcohol-attributable burden of disease, respectively, and 25.6% and 9.0%, respectively for females. For young people aged 15-29 years, an estimated 3.5% and 0.6% of deaths are attributable to alcohol consumption and illicit drug use, respectively (Toumbourou et al., 2007). Alcohol use and illicit drug use were estimated to account for 3.2% and 1.3%, respectively, of the burden of disease for young people of the same age group.

Using data from 2000, Schneider et al. (2007) estimated that 33,699 deaths were attributable to alcohol among South Africans (7.1% of all deaths). A large proportion of the alcohol-related deaths were due to injury, particularly among the younger age groups (of 15-29 years). Alcohol was estimated to contribute to 7.0% of all DALYs. Of all alcohol-attributable DALYs, 63% were due to intentional and unintentional injuries: 39% were due to interpersonal violence, 14.3% to road traffic accidents, 6.0% to other unintentional injuries, and 3.7% to self-inflicted violence. The objectives of this Chapter are:

a. To outline the extent, scope and occurrence of alcohol and other drug use among children.

b. To outline the negative costs of such use with respect to crime, violence and injury in particular.

c. To discuss risk and protective factors for substance use among young people.

d. To outline policy and programmatic interventions for addressing substance use, which can potentially impact indirectly in decreasing crime, violence and injury among children and adolescents.

e. To discuss areas in need of further research among young people in South Africa.

**EXTERM, SCOPE AND OCCURRENCE**

Alcohol, tobacco and cannabis are the psychotropic substances that are most commonly used by children and adolescents in South Africa. They are major causes of violence and crime, injury, and other social problems including sexual risk behaviours (Mpofu, Flisher, Bility, Onya & Lombard, 2005; Plüddemann, Flisher, Mathews, Carney & Lombard, 2008a; Taylor, Dlamini, Kagoro, Jinabhai & De Vries, 2003; Vundule, Maforah, Jewkes & Jordaan, 2001), earlier initiation of sex (McGrath, Nyirenda, Hosegood & Newell, 2009), scholastic problems (Morojele, Parry, Zierovgol & Robertson, 2001; Townsend, Flisher & King, 2007), school drop-out (although the results are mixed; Flisher, Townsend, Chikopvu, Lombard & King, 2010), and mental and physical health problems (Brook, Morojele, Brook & Rosen, 2005; Degenhardt & Hall, 2006; Russell et al., 2008; Yen & Chong, 2006). Most of those who use illegal drugs, such as cannabis, tend to first use alcohol and/or tobacco (Flisher, Parry, Muller & Lombard, 2002; Patrick et al., 2009). Among learners in Grades 8-11 in a national survey of high schools conducted in 2008 (Reddy et al., 2010), half (50%) reported ever...
having drunk alcohol, just under one third (30%), ever having smoked cigarettes, and 13% ever having used cannabis in their lifetime (see Figure 1). Almost a third (29%) indicated having engaged in binge drinking (drunk five or more drinks on one occasion) during the preceding one-month period. The most recent South Africa Demographic and Health Survey (of 2003) which involved household samples, found that among adolescents aged between 15 and 19 years, 19.9% of the males and 10.2% of the females had ever used tobacco products, and 31.9% of the males and 17.2% of the females had ever consumed alcohol (Department of Health [DoH], Medical Research Council, OrcMacro, 2007).

Rates of entry into substance abuse treatment centres in South Africa have increased among adolescents since the 1990s. Between one fifth and one quarter of the complement of patients in specialised treatment centres in South Africa are under 20 years of age (Plüddemann, Parry & Bhana, 2008b). The range of drugs for which treatment is sought has also increased, with cannabis being the most commonly abused drug among adolescent treatment seekers. In some parts of the country a high proportion of adolescents in treatment have alcohol (Mpumalanga and Limpopo), Mandrax (Eastern Cape), heroin (KwaZulu-Natal) and methamphetamine (Western Cape) as primary drugs of abuse (Plüddemann et al., 2008b).

Substance use, crime, violence and injuries

Young people who are involved in criminal activities seem to be disproportionately involved in using substances (Parry, Plüddemann, Louw & Leggett, 2004c). Parry et al.’s (2004c) study of 999 arrestees in police holding cells in Cape Town, Durban and Johannesburg found that those who were under the age of 20 years were more likely (66.0%) than arrestees of all ages (45.3%) to test positive for use of any drugs. They were also more likely to test positive for each of the drugs tested, which included cannabis, Mandrax, cocaine, amphetamines, benzodiazepines and opiates.

Both the perpetration and experience of violence are associated with alcohol and other drug use among children and adolescents (Betancourt & Herrera, 2006; King et al., 2004; Liang, Flisher &
Lombard, 2007; Morojele & Brook, 2006; Peltzer & Pengpid, 2008; Plüddemann et al., 2010). Substance use is recognised to be a major contributor to school violence, along with other factors that can foster an environment that is not conducive to teaching or learning (Matthews, Griggs & Caine, 1999; Zulu, Urbani, van der Merwe & van der Walt, 2004). Bullying (as a perpetrator, and as a perpetrator/victim) is associated with alcohol use among young people (Liang et al., 2007). Moreover, Plüddemann et al. (2010) found that methamphetamine use was associated with aggressive or delinquent behaviour among high school learners in a study conducted in Cape Town. Other school studies have found that alcohol use was associated with being a victim of sexual assault and sexual abuse (Betancourt & Herrera, 2006; King et al., 2004; Peltzer & Pengpid, 2008). In a community-based study, Morojele and Brook (2006) found that adolescents who used substances (such as tobacco, alcohol and cannabis) frequently were more likely than those who rarely or never used them to experience multiple violent acts.

Adolescents increase their risk of being injured, sometimes fatally, when under the influence of alcohol and/or other drugs (Maruping, 2006). Substance abuse is associated with the main forms of unintentional injuries (traffic, drowning, poisoning, burns and falls), as well as intentional injuries (interpersonal violence, including suicide, child abuse and neglect, and sexual violence) that befall young people. The role of alcohol in non-natural deaths is evident from the findings of the 2008 National Injury Mortality Surveillance System (NIMSS) pertaining to children (Donson, 2010). Donson’s (2010) report shows that in 2008, half of the non-natural deaths of those aged 0-19 years were due to violence, while the remainder were due to transport-related injuries (25%), suicide (13%), other unintentional injuries (8%), and undetermined causes of death (4%). A total of 78% of children who died in 2008 died as a result of non-natural causes. Just under half (43%) of those aged between 15 and 19 years who were tested had positive blood alcohol concentrations (BACs). The average BAC among those who tested positive was high at 0.14 g/mmol. Alcohol positivity was highest among those who died from violence (54.2%), followed by transport-related deaths (40%), undetermined and other intentional deaths (31% each), and the lowest percentage was for suicides (17.0%). Older adolescents (15-19 years) were more likely (45.0%) to test positive for alcohol than younger adolescents (10-14 years; 26.9%). Males (46.3%) were also more likely to test positive for alcohol than females (30.6%). The scene of injury most likely to be associated with testing positive for alcohol was an informal settlement (61.2%). Alcohol-related deaths occurred most commonly in the early hours of the morning (00h00-03h00) or at night (between 20h00 and 23h00), and during weekends. Those who died as a result of a sharp object (most likely, a stabbing) were most likely to be alcohol positive (65.3%), followed by those who died due to blunt force (54.5%). Of concern is that the BAC levels of those who were alcohol positive were more likely to be in the 0.05-0.14 g/mmol category than in the 0.01-0.04 g/mmol category, with the exception of suicide deaths. In other words, young people who died of non-natural causes and who were alcohol positive were more likely to have moderate to high levels, than low levels of alcohol in their systems, suggesting heavy drinking and/or intoxication at the time of their deaths.

**RISK FACTORS**

The terms risk factor and protective factor have been variously defined. In his discussion of definitions of risk, Burt (2001) concluded that there is general consensus that a risk factor can be defined as “an exposure which is statistically related in some way to an outcome” (p. 1007), but there is still uncertainty or disagreement in the literature regarding whether or not a risk factor ought to be truly causal, and what the strength of the association should be, in
order for an issue to be considered to be a risk factor. Burt (2001) also noted a lack of consensus regarding whether or not a risk factor ought to refer to immutable or modifiable factors. For the purposes of this Chapter, we have employed the generally-accepted conceptualisation of risk factor described above, and focus on modifiable, as opposed to immutable risk factors such as age, gender and ‘race/ethnicity’ (the latter variable has been inconsistently associated with alcohol and other drug use in adolescents). This approach is adopted particularly since one of this Chapter’s objectives is to outline policy and programmatic interventions for addressing substance use among children and adolescents. It is acknowledged, however, that knowledge about which factors are immutable can inform the targeting of intervention efforts.

Protective factors have been defined in at least two main ways. One conceptualisation of protective factors is that they are opposite to risk factors. A second, more common, conceptualisation of protective factors is that they moderate or mediate the effects of exposure to risk and inhibit negative outcomes (e.g., drug abuse) among those at risk (Hawkins, Catalano & Miller, 1992). Accordingly, protective factors account for differences in outcomes among individuals who are exposed to the same risks, and are not necessarily the polar opposite of risk factors (Hawkins et al., 1992). There have been very few research studies that have identified this manner of protective factors for substance use among young people in South Africa, and hence a detailed discussion of protective factors is not possible in this chapter.

Substance abuse among children and adolescents is associated with multiple risk factors which are operative at different levels. In the next sections we discuss risk factors within the following domains: society, community, school and academic environments, parental/familial, peers/friendships domain, and the individual domain. The Box shows examples of risk factors for substance abuse within each domain.

**Societal factors**

*Demographic and economic shifts*

Although empirical evidence is relatively limited in this area, globalisation and policies which promote
open markets are purported to indirectly influence substance use by children and adolescents. Globalisation poses a challenge for drug control and has been accompanied by greater access to drugs (Spooner & Heatherington, 2005). Furthermore, globalisation has been associated with untoward competitive pressures on many sectors of society, including increased job demands, longer working hours, less job security, and a growth in part-time and casual jobs without benefits, especially for women and the youth (Arnett, 2002; Daly, 2004). Such pressures lead to strain particularly on parents who struggle to strike a balance between work demands and family needs, compromising their availability to fulfil their child-care obligations (Daly, 2004). Globalisation may also give rise to identity confusion and powerlessness among adolescents, leading to depression and increased substance use problems (Arnett, 2002; Spooner & Heatherington, 2005).

Social inequalities/socio-economic disadvantage
Poverty increases the probability of later substance use primarily in contexts of extreme economic deprivation which co-occurs with childhood behaviour problems (Hawkins et al., 1992). Children and adolescents from economically deprived families and communities are at increased risk of engaging in substance use. Their situations render them more likely to: (a) live under chronic stress, which in turn negatively affects their mental health and social well-being, and consequently, substance abuse; (b) use substances for the purposes of modulating negative mood resulting from chronic stress; (c) lack access to mental health services, social support, education and recreation; (d) be unsupervised by parents and/or other caregivers who are themselves under everyday stress due to their economic situation; and (e) be exposed to community violence and unemployment, both of which provide a conducive environment for substance use (Spooner & Heatherington, 2005). Moreover, such communities have high levels of unemployment, and the sale of illegal drugs, and illegal sales of alcohol, become much-needed forms of income generation (Matthews et al., 1999), thereby increasing the availability of these drugs in communities.

Cultural orientation
There has been an increased trend in various parts of the developing world, and especially among young people, to espouse aspects of ‘Western’ culture and values (e.g., Arnett, 2002; Eckersley, 2005). Key among these values are tolerance of individual differences, and self-determination. While the espousal of ‘Western’ cultural values is said to have some benefits, it has also been associated with substance use and other social problems (Eckersley, 2005; Eide & Acuda, 1996, 1997). In particular, some commentators have argued that the adoption of ‘Western’ values and beliefs such as individualism, secularism, and consumerism may all indirectly be associated with more substance use among children and adolescents (Eckersley, 2005).

Individualism
Individualism is argued to be associated with reduced formation and maintenance of attachments (Eckersley, 2005) which are recognised to be associated with drug use. Among adolescents, for example, parent-child attachment is a protective factor against drug use (e.g., Brook, Brook, Gordon, Whiteman & Cohen, 1990). In essence, individualism is argued to compromise some core elements of collective life (collective action and common good) which are protective of substance use in adolescents.

Secularism
According to Roberts et al. (2008), ‘Western’ societies’ discounting of religion in the context of civic matters, deprives their citizens from holding common sets of ‘higher’ values associated with a sense of social cohesion and purpose or meaning in life. Yet, a society in which a sense of ‘higher purpose’,
beyond the satisfaction of personal desire, is absent provides an environment conducive to substance use (Roberts et al., 2008). In support of this view, it is noteworthy (as will be seen below), that local and international studies have found religiosity to be a protective factor for adolescent substance use, albeit with small effect sizes (Hawkins et al., 1992; Parry, Morojele, Saban & Flisher, 2004a; Steinman & Zimmerman, 2004).

**Consumerism/materialism**

Today’s aggressive marketing of goods targeted at young people has led young people to increasingly link their identity with possession of material goods (Eckersley, 2005). Yet, it is argued that in general, materialism (the pursuit of money and possessions) results not in happiness but in dissatisfaction and negative emotions such as alienation, depression, anger, and anxiety (Kasser, 2002). Young people, it is argued, may engage in drug use in order to modulate the negative mood/feelings which result from materialism. Furthermore, Eckersley (2005) states that inherent in consumerism is the insatiable ‘hunger’ for more in life:

“As it seeks ever more ways to colonize our consciousness, consumerism both fosters — and exploits — the restless, insatiable expectation that there has got to be more to life. In creating this hunger, consumerism offers its own ‘remedy’: more consumption, including more consumption of drugs, whether licit or illicit” (p. 159).

**Community factors**

Both legal and illegal drugs are readily available to many young people in South Africa at the broader societal and the specific community levels (Prinsloo, Ladikos & Nesar, 2005). Access to alcohol and other drugs is positively associated with their use (Brook et al., 2005). Although current legislation prohibits the sale of alcohol to people under the age of 18 years, it is relatively easy for young people to access alcohol either indirectly or directly, since laws are not enforced consistently.

Societal norms and portrayals of drinking and drug use in films and advertisements encourage drinking and other drug use, and alcohol advertisements often target young people (Snyder, Milici, Slater, Sun & Strizhakova, 2006). Recent studies have shown very strongly that alcohol advertisements are linked to earlier onset of alcohol consumption as well as to greater quantities of consumption among those who have already initiated use (Smith & Foxcroft, 2009).

Children’s and adolescents’ exposure to public drunkenness places them at risk of drunkenness themselves (Parry et al., 2004a). Also, personal knowledge of adults who engage in anti-social behaviour is associated with smoking, while subjective adult norms against drug use and community affirmation of positive behaviour have been found to be related to less smoking behaviour among young people (King et al., 2003).

**School and academic environment**

Alcohol and drug use are more prevalent among children and adolescents who attend schools where alcohol and drugs are more available. Alcohol and other drugs are brought to and consumed on the premises of some schools, particularly in disadvantaged communities (Zulu et al., 2004). The availability of drugs in and around schools facilitates their acquisition and use. Furthermore, where school lessons are not stimulating, learners are more likely to become prone to using drugs (Matthews et al., 1999). In addition, having low academic aspirations and performing poorly at school have been found to be related to adolescents’ use of alcohol (Morojele et al., 2001), as have absenteeism and repeating a year at school (Flisher, Parry, Evans, Muller & Lombard, 2003).
Familial environment
Children and adolescents whose parents and caregivers use alcohol and other drugs are more inclined than those who do not experience drug-taking in their homes to also use alcohol and other drugs. Adolescents who are exposed to such behaviour are more likely to model it and/or to consider it acceptable (Brook, Morojele, Pahl & Brook, 2006; Onya, 2005). The quantity and quality of time that parents and other caregivers spend with their children is linked to their children's use of alcohol and other drugs (Brook et al., 2006). Spending time with children enhances their feelings of self-worth and may also minimise their use of alcohol and other drugs (Brook et al., 2006). Similarly, increased child monitoring is associated with a decreased risk of alcohol and other drug use (Amoateng, Barber & Erikson, 2006). In the absence of such nurturing home environments children and adolescents often become more inclined to seek out others, who are mostly fellow peers, to fulfil their need for acceptance and recognition with a greater risk of drug use (Brook et al., 2006).

Peers/ friends
The strongest and most consistent predictor of substance use among children and adolescents is their peers’ substance use (Brook et al., 2005, 2006; Parry et al., 2004a). Young people often report their initial use of alcohol and/or other drugs with friends and peers as primarily serving recreational purposes. Peer pressure may give rise to drug use, whereby young people are encouraged by their friends to use drugs, or conversely, peer selection may be in operation, when young people choose as their friends, other young people who use drugs and engage in other deviant behaviours. They then become drug users themselves (Brook et al., 2006). Drug use is a feature of adolescent gangs and other marginalised peer group networks such as street children, and being a member of such groups often necessitates the use of different drugs (Bility, 1999).

Individual factors
Children and adolescents who tend to engage in rebellious and anti-social behaviours tend to also be prone to using drugs (Brook et al., 2005). On the other hand, greater religious involvement is associated with less alcohol use and drunkenness (Parry et al., 2004a). Steinman and Zimmerman (2004) have proposed that involvement in religious activities may be protective against adolescent risk behaviour by influencing affiliation to pro-social peer group(s), improving relationships with the family, increasing involvement in pro-social behaviours, and internalising beliefs that certain risk behaviours are ‘immoral’. Being positively disposed to drug use increases the chances of the behaviour being carried out; and generally, young people who have a short-term focus are more likely to abuse substances than those with a longer-term view of life (Ziervogel, Morojele, Van de Riet, Parry & Robertson, 1997, 1998). Depressive symptoms and a poor sense of well-being have also been shown to be associated with the use of tobacco and illegal drugs among young people (Brook et al., 2005, 2006; Plüddemann et al., 2010; Saban & Flisher, 2010; Visser & Routledge, 2007). Finally, there have been mixed findings regarding the association between self-esteem and substance use; results differ by gender and the link is seemingly dependent on the domain within which self-esteem is measured and the drug of concern (Wild, Flisher, Bhana & Lombard, 2004).

RECOMMENDATIONS
Substance abuse is a problem among children and adolescents in many communities in South Africa, but its complexity makes it unwise to adopt one approach to address problems among all groups (United Nations Office on Drugs and Crime [UNODC], 2004). For example, structural factors, such as poverty and unemployment, make substance abuse-related problems particularly devastating and difficult to address in marginalised and disadvantaged communities. Decisions about how best to address substance abuse problems should take cognisance
of the nature of the community for which intervention efforts are intended (McBride, 2005). Consequently, prior to embarking on prevention intervention projects in any particular community, it is important to conduct an initial baseline situation assessment to determine the particular drugs that are used, the substance-related problems that are of most concern, and the risk and protective factors that are likely to apply to young people in that community. In addition, an evaluation component is a useful adjunct to new policy and programmatic interventions in order to determine whether and how one’s efforts are impacting on the communities being targeted (McBride, 2005; UNODC, 2004; WHO, 2007). The next sections address prevention and treatment interventions for substance use problems among young people in turn.

**Prevention**

Prevention intervention programmes need to focus on targeting risk factors and enhancing protective factors at all levels. Prevention intervention approaches for mental disorders may differ on the basis of the population being targeted, and can be categorised into universal, selected and indicated prevention interventions (Institute of Medicine [IOM], 1994). According to the IOM, universal prevention interventions are those that “are targeted to the general population or a whole population group that has been identified on the basis of individual risk” (p. 24); selected prevention interventions target “individuals or a subgroup of the population whose risk of developing mental disorders is significantly higher than the average” (p. 25); and indicated prevention interventions target “high-risk individuals who are identified as having minimal but detectable signs or symptoms foreshadowing mental disorder, or biological markers indicating predisposition for mental disorder but who do not meet DSM-III-R diagnostic levels at the current time” (page 25). Although the latter definition refers to DSM-III-R, it applies for all mental health disorders regardless of the clinical diagnostic system used.

The following recommendations focus on universal, selected and indicated prevention approaches to address alcohol and other drug use among children and adolescents, and consist of intervention strategies that have been shown to be effective (Babor et al., 2003; Foxcroft, Ireland, Lister-Sharp, Lowe & Breen, 2002, 2003). For each approach we discuss specific interventions that focus on the society or community, young people’s families and caregivers, and lastly young people (and their peers) themselves. The Box to follow gives examples of different types of prevention strategies at different levels.

**Universal prevention strategies**

The recommendations on universal prevention programmes that are outlined below are based on findings on the strategies that have been shown to be most effective in preventing or delaying young people’s uptake or abuse of substances (Babor et al., 2003; Foxcroft et al., 2002, 2003).

Universal interventions involving communities mainly focus on reducing young people’s access to alcohol and other drugs (supply), and modifying societal/community norms that promote their use (demand). Most universal interventions focusing on the societal or community level involve regulatory interventions; i.e. those that involve making or changing laws in order to change behaviour(s). Many relevant programmes and policies exist but are not enforced appropriately. Potentially beneficial amendments to laws that could reduce alcohol-related road crashes and unintentional injuries could include graduated licensing regulations for novice drivers applicable for three years after receipt of licenses. In addition, stricter restrictions on alcohol advertisements would be beneficial. A list of policies and legislation that is most relevant for addressing substance abuse among children and adolescents is listed later in this section.

Universal interventions that are applicable for delivery to parents/caregivers/families have two
## Prevention strategies for adolescent substance use

<table>
<thead>
<tr>
<th>Societal and community level interventions</th>
<th>Universal</th>
<th>Selected</th>
<th>Indicated</th>
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</thead>
<tbody>
<tr>
<td><strong>Regulatory interventions:</strong></td>
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<tr>
<td>• Increase excise tax on alcohol and tobacco products</td>
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<tr>
<td>• Reduce the number of outlets that sell tobacco products and alcohol</td>
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</tr>
<tr>
<td>• Enforce laws that ban purchase of alcohol and tobacco products by minors</td>
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<td>--</td>
</tr>
<tr>
<td>• Increase the penalties for breaching alcohol and tobacco legislation</td>
<td>√</td>
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<td>--</td>
</tr>
<tr>
<td>• Strengthen law enforcement agents’ ability to reduce drug trafficking</td>
<td>√</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>• Support community mobilisation initiatives to reduce the sale of legal and illegal drugs</td>
<td>√</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>• Restrict or ban alcohol-related sports sponsorships when minors exceed 10% of the likely viewing audience</td>
<td>√</td>
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</tr>
<tr>
<td>• Institute counter-advertising measures to counteract alcohol-industry sponsored drinking messages</td>
<td>√</td>
<td>--</td>
<td>--</td>
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<tr>
<td>• Reinforce drink driving law</td>
<td>√</td>
<td>--</td>
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<tr>
<td>• Random breath testing of drivers</td>
<td>√</td>
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<td>--</td>
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<tr>
<td>• Institute graduated licensing programmes for novice drivers up to 3 years</td>
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<tr>
<td><strong>Harm Reduction Strategies:</strong></td>
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<tr>
<td>• Breath testing of repeat offenders</td>
<td>--</td>
<td>√</td>
<td>√</td>
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<tr>
<td>• Environmental enhancement strategies such as serving alcohol in shatter-resistant glasses</td>
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<td>√</td>
<td>√</td>
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<tr>
<td>• Syringe exchange programmes for injecting drug users</td>
<td>--</td>
<td>--</td>
<td>√</td>
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<tr>
<td>• Sobriety checkpoints</td>
<td>--</td>
<td>--</td>
<td>√</td>
</tr>
<tr>
<td><strong>Outreach and community mobilisation activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Nurturing children</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>• Setting and monitoring children’s compliance to rules</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<tr>
<td>• Clear communication of parental expectations</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>• Applying appropriate discipline</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>• Effective parents’/caregivers’ communication with children</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>• Supervision and monitoring of children’s activities including behaviour related to drug use</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

## Interventions among parents/caregivers/families

| **Reduce substance abuse among adults/parents/caregivers**                                                   |           |          |           |
| • Improve the enforcement of existing legislature/regulations for drinking and driving, and retail sales of alcohol | √         | √        | √         |
| • Increase the total tax on all alcohol products by three to five percentage points                            | √         | √        | √         |
| • Pilot test and facilitate brief interventions and other forms of treatment for high risk and hazardous drinkers | √         | √        | √         |
| • Implement a coherent liquor outlet policy                                                                     | √         | √        | √         |
| • Increase restrictions on alcohol marketing                                                                    | √         | √        | √         |
| • Encourage community mobilisation against alcohol misuse                                                        | √         | √        | √         |
| • Implement product restrictions on the size of alcohol packaging, requiring specific labelling (Parry, 2005) | √         | √        | √         |

## Facilitate optimal parenting

- Nurturing children
- Setting and monitoring children’s compliance to rules
- Clear communication of parental expectations
- Applying appropriate discipline
- Effective parents’/caregivers’ communication with children
- Supervision and monitoring of children’s activities including behaviour related to drug use
## Interventions involving children and adolescents

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Universal</th>
<th>Selected</th>
<th>Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reversing positive attitudes to drugs</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redressing the norm – young people’s exaggerated estimations of the extent of drug use among their peers are made more realistic</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td>Social competence/resistance skills training – children and adolescents are taught skills to resist pressure from peers to use drugs and/or other generic inter-personal and intra-personal skills</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarifying values with young people – taking them through exercises where they have to answer questions on future aspirations</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School based life skills programs (which enlist parental involvement)</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

### After-school programs

- Behavioural life skills development |          | ✓        |           |
- Active participation                 |          | ✓        |           |

### Brief interventions in primary care settings, criminal justice, correctional services, and social services with adolescents and youth

- Psycho-education                     |          |          | ✓         |
- Behavioural coping skills training    |          | ✓        | ✓         |
- Cognitive coping skills training      |          |          | ✓         |
- Addressing symptoms of mental health problems that may cause and/or exacerbate abuse of substances |          |          | ✓         |
- Screening for alcohol and drug problems |          | ✓        | ✓         |
- Psycho-social support                 |          |          | ✓         |
- Alcohol interlock systems             |          |          | ✓         |

Main ultimate aims: (a) to reduce substance abuse among adults/parents/caregivers, and (b) to facilitate optimal parenting. Strategies proposed by Parry (2005) as likely to be effective in reducing alcohol abuse among adults and the general population in South Africa can also be seen in the Box referred to above. Supporting parents/caregivers to improve their parenting behaviours can have positive benefits with respect to children’s engagement in substance use. In particular, increasing parental warmth/nurturing, effective communication, monitoring and discipline are important strategies.

Participation in programmes for improving parenting behaviours may translate into less substance abuse among adult programme recipients, and indirectly, less substance abuse among their children. One family programme which has been singled out (Foxcroft et al., 2002) because of its apparent long-term effectiveness is known as the Strengthening Families programme (Molgaard, n.d.). This programme provides parents with skills to nurture and manage their children while concurrently running workshops for children aged between 10 and 14 years. The training for parents focuses on such topics as the importance of nurturing one’s children; setting rules (e.g., having house rules); monitoring children’s adherence to rules; and applying appropriate discipline (e.g., acknowledging and rewarding children’s achievements and positive behaviours). Also, 6-12 months after completion of initial training, booster sessions are provided in order to revise the topics that have been learned and empower parents to deal with issues such as stress and communication problems that may arise while they seek to apply their newly acquired skills (Molgaard, n.d.).

Universal programmes may also involve working with young people directly and taking into account their peers’ influence on their behaviour. Efforts to lessen substance abuse by children and adolescents may involve reversing positive attitudes to drugs, redressing the norm, resistance...
Relevant policies and legislation for substance use

<table>
<thead>
<tr>
<th>Relevant policies and legislation</th>
<th>Focus/objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>The National Drug Master Plan (2006-2011)</td>
<td>Outlines programmes and policies of the government to address substance use problems in South Africa.</td>
</tr>
<tr>
<td>The Prevention of and Treatment for Substance Abuse Act, 2008</td>
<td>Establishment and registration of programmes and services, including prevention, early intervention, treatment and reintegration, and after-care; and facilitate collaboration among government departments and other stakeholders; establishment of the Central Drug Authority (CDA) to monitor and oversee activities of the CDA.</td>
</tr>
<tr>
<td>The National Liquor Act, 2003</td>
<td>The primary focus is on regulation of the liquor industry. The Act seeks to facilitate the reduction in the costs of alcohol abuse and promote the development of a responsible and sustainable liquor industry; and provides for public participation in liquor licensing issues.</td>
</tr>
<tr>
<td>Provincial Liquor Bills/Acts</td>
<td>Provision of liquor licenses for retail sale of alcohol; establishment of Liquor Boards to; establishment of liquor officers and inspectors; and to provide for appointment of municipalities as agents of the Liquor Board and liquor licensing authorities.</td>
</tr>
<tr>
<td>Education Laws Amendment Act, 2007</td>
<td>Provides for random search and seizure and drug testing at schools.</td>
</tr>
<tr>
<td>National Road Traffic Act, 1996</td>
<td>Deals with matters related to drinking and drug use while driving; breath tests, blood tests and recognition of signs of drug use/intoxication; testing/enforcement equipment; transportation of drugs; legal blood alcohol limit.</td>
</tr>
<tr>
<td>Drugs and Drug Trafficking Act, 1992</td>
<td>Prohibition of use of drugs and possession, dealing/supply, manufacture, search and seizure.</td>
</tr>
<tr>
<td>Minimum Norms and Standards for In-Patient and Out-Patient Treatment Centres (National Department of Social Development [DSD])</td>
<td>Specifies acceptable quality of care for people, including children, receiving in-patient and out-patient treatment; regulation of treatment centres to ensure services are delivered in accordance with human rights culture and legal and constitutional frameworks; include special provisions for protection of children.</td>
</tr>
</tbody>
</table>

skills training and values clarification exercises. The Department of Education (DoE) has as its mandate the implementation of life orientation classes, with one main focus area being substance abuse (DSD, National Drug Master Plan, n.d). The DoE is also involved in drug testing in schools, although the evidence regarding such an approach is equivocal (see Coetzee, 2005). Although most universal programmes for young people are implemented at schools, many school-based programmes are of minimal effectiveness (Faggiano et al., 2005; McBride, 2005; Plant & Plant, 2006). Education-only programmes have been shown to be particularly ineffective, and programmes that are implemented among groups of high-risk youth are sometimes associated with more rather than less subsequent drug use (Toumbourou et al., 2007). On the other hand, the types of school-based programmes that have positive results can be seen in the Box on the next page.

*Selected prevention strategies*

Selected prevention strategies focus on individuals/groups with a higher than average risk of developing substance use problems. At the community level, they mainly involve harm reduction strategies, outreach activities, and community mobilisation activities. For example, the provincial Liquor Acts make provision for communities to play a role in decisions regarding the allocation of liquor licenses in their communities. Harm reduction interventions that have been found to be effective among young people include breath testing of repeat offenders, and environmental enhancement strategies such as serving alcohol in shatter-resistant glasses (Toumbourou et al., 2007). At the level of the family,
selected prevention interventions that reduce parents’ levels of substance use and improve their parenting behaviours can also be effective. Finally, selected prevention interventions that are delivered at the individual level include school-based life skills programmes, after-school programmes, and screening of young people for alcohol and other drug problems.

**Positive strategies and approaches to be incorporated in school-based programmes**

- Redressing the norm – young people’s characteristically exaggerated estimations of the extent of drug use among their peers are made more realistic.
- Social competence/resistance skills training – teaching skills to enable children and adolescents to resist pressure from peers to use drugs and/or other generic inter-personal and intra-personal skills.
- Clarifying values with young people – participation in exercises involving discussions about values and future aspirations.
- Parenting and community programmes that are run concurrently.
- Multiple sessions in the short-term, followed by regular booster sessions over time.

**Indicated prevention strategies**

Indicated prevention interventions are measures targeted at those who use substances at problematic levels but whose use has not yet progressed to the pathological levels of abuse or dependence. At the community level, appropriate indicated prevention approaches include harm reduction strategies, outreach activities, community mobilisation (similar to those that can be applied as selected intervention programmes e.g., syringe exchange programmes for injecting drug use, and sobriety checkpoints). At the level of the family, indicated prevention interventions involve strategies to reduce parents’/caregivers’ levels of substance use, and strengthen their parenting behaviours. At the level of the individual, the most appropriate indicated prevention strategies include screening for alcohol/drug problems, addressing symptoms of mental health problems that may cause and/or exacerbate the abuse of substances, brief interventions, psycho-social support, and alcohol interlock systems, often implemented following a drink-driving offense (Burnhams, Myers & Parry, 2009).

**Treatment**

Although most children and adolescents who use substances do not fall into this category, specialist treatment is required for individuals with diagnosed or diagnosable substance use disorders. Screening for drug problems, detoxification and brief interventions should ideally be available at schools, primary health clinics, police holding cells, prisons, and trauma units. Support, counselling and treatment are needed for children and adolescents with substance use disorders. Counselling or psychological interventions with adolescents and youth could take the form of family-based or parent-directed contingency management programmes (Kamon, Budney & Stanger, 2005), or cognitive behavioural therapy and motivational enhancement (Toumbourou et al.,

**Treatment needs of children and adolescents**

- More support should be given to community-based and self-help programmes.
- Court diversion programmes for rehabilitation and treatment should be available to young people who are involved in criminal activities due to an addiction to drugs.
- More research should be conducted to determine ‘best practices’ for the treatment of substance use disorders among adolescents in South Africa.
- More specialised, public sector inpatient and outpatient treatment centres should be established; and existing and new private facilities should receive state subsidies (Myers, 2004).
- More age-appropriate services, including ancillary (psychological and medical) care should also be made available to young people (Myers, 2004).
- More specialised halfway houses should be established to assist those who are being re-integrated into society post-treatment.
Prevention and service agencies in the substance abuse sector in South Africa

<table>
<thead>
<tr>
<th>Agency/Organisation</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Drug Authority (CDA)</td>
<td>Addresses substance use-related matters among children in South Africa, and mandated to carry out the activities according to the National Drug Master Plan (NDMP). <a href="http://www.dsd.gov.za/cda/">http://www.dsd.gov.za/cda/</a></td>
</tr>
<tr>
<td>Cape Town Drug Counselling Centre (CTDCC)</td>
<td>Prevention, treatment, family counselling, parent support; training in the workplace, schools, families, communities, and of professionals. Special programmes are run for adolescents. <a href="http://www.drugcentre.org.za/">http://www.drugcentre.org.za/</a></td>
</tr>
<tr>
<td>Soul City Institute for Health and Development Communication</td>
<td>Areas of focus include HIV prevention and violence prevention through alcohol control. Conducts mass media campaigns, and social mobilisation and advocacy activities. Soul Buddyz is a special project for children focusing on issues related to substance abuse including relationships, sexuality, bullying, abuse, corporal punishment, disability, road safety and other accidents, like burns and drowning. <a href="http://www.soulcity.org.za/">http://www.soulcity.org.za/</a></td>
</tr>
<tr>
<td>DSD and United Nations Office on Drugs and Crime</td>
<td>The KeMoja project was a large scale drug awareness campaign for young people. <a href="http://www.dsd.gov.za/">http://www.dsd.gov.za/</a></td>
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</tbody>
</table>

2007). However, in South Africa, treatment services are limited for most young people in general and those from disadvantaged communities in particular (Myers, 2004). Without treatment for substance use disorders, problems seldom disappear, but turn into lifelong difficulties with addictions and their related social and health consequences. See the Box on treatment needs of children and adolescents with substance use disorders.

Despite the relative shortage of programmes to address substance use in South Africa, there are a few key agencies and organisations involved in prevention and treatment of substance abuse problem among children and adolescents. The Box below shows some key agencies and their main areas of work.

Barriers to implementing the recommended interventions

There are a number of barriers to implementing the recommended interventions. Most importantly, financial and human resource constraints are among the greatest challenges, as many of the proposed interventions do exist as policies and laws but are not enforced (Matthews et al., 1999). In addition, more training is needed within government departments to enable individuals to deliver the services more effectively. Second, despite the existence of the CDA, a body mandated to coordinate government policies and programmes, there is still a need for better coordination of efforts among government departments. Third, poverty, socio-economic inequities and unemployment are key challenges. The sale of alcohol and other drugs is a viable income source in many communities facing high
unemployment, and can be expected to continue unabated, until conditions improve and alternative sources of income become available. Fifth, alcohol-producing companies make up a powerful industry that provides much-needed jobs. Despite having numerous social responsibility programmes, some of their practices, such as their marketing practices, provide their audiences with messages that are in clear contradiction with those that would discourage alcohol initiation and use among young people. Finally, the criminal justice and correctional services systems are not prepared to deal with the influx of drugs and domestic trafficking of drugs, and again more resources and training are needed in these areas.

Research needs
More research is needed to be able to better address substance abuse among young people in South Africa. For example, from our search of the South African literature we uncovered a paucity of research that identifies protective factors (as in, factors that buffer risk) for substance use. Such research is needed particularly given that substance-related crime and violence occur among the most vulnerable of young people. Also, a great deal of research is needed to better understand the processes involved in the continuity or discontinuity of alcohol and other drug use. Of special significance will be future investigations to identify mediating and moderating mechanisms. For example, there may be certain unexplored cognitive or social processes that mediate the continuity of alcohol and other drug use. Similarly, social and personal circumstances (e.g., a romantic relationship), personality characteristics (such as emotional instability), or even more general cultural or social changes may moderate (either intensify or reduce) the continuity of alcohol and other drug use between adolescence and young adulthood. These issues merit consideration in the future. Furthermore, local research to establish the effectiveness of particularly, demand reduction strategies for preventing substance abuse among youth in South Africa is urgently needed. Efficacy and effectiveness studies should also be conducted on programmatic and policy interventions (Toubourou et al., 2007). In addition, studies are needed to obtain reliable estimates of the economic costs of young people’s substance abuse to society and South Africa’s development, as such information is currently unavailable. There is also a need for efficacy studies on pharmacotherapy for substance use in adolescents (Toubourou et al., 2007).

Key messages
- Regulatory interventions - involving policy reform, policy formulation and the enforcement of existing legislation - are the most effective in reducing substance abuse problems among young people.
- Harm reduction efforts and selected prevention measures are also effective strategies and reduce the levels of crime, violence and sexual risk behaviour that result from young people’s use of alcohol and other drugs. Of note are random breath testing, graduated licensing and the enforcement of drink driving laws (which reduce drinking and driving), and early screening and brief intervention programmes to prevent the escalation of substance use to substance abuse and dependence.
- The expansion of more accessible treatment interventions which are tailored specifically to adolescents and youth with substance use disorders is vital.
- Careful scrutiny and selection of school-based programmes is vital in order to ensure that programmes that are implemented include the key components of programmes that are most likely to be beneficial. Stand-alone and once-off intervention programmes should be discouraged.
- Education and persuasion programmes that are considered for implementation should, at a minimum, be intensive and accompanied by media persuasion campaigns that are broad-based and accompanied by community/social movements and regulatory measures (Rehm, Babor & Room, 2006).
CONCLUSION

Levels of substance use are on the increase among young South Africans and it is a growing cause of concern, particularly due to its contribution to social and health problems, most notable among them being crime, violence and intentional and unintentional injuries. To effectively address substance abuse problems among young people it is important to recognise that they are complex and multi-faceted requiring a multi-sectoral and holistic approach. To enable government departments to work together on key interventions, the Central Drug Authority (CDA) should be supported to enable it to better coordinate the activities of DoH, DSD, DoE, as well as the departments of Finance, Community Safety, and Correctional Services. Substance abuse prevention is not only the responsibility of governments, but non-governmental organisations and members of civil society also have a role to play in addressing substance abuse among young people (Parry, Morojele & Jernigan, 2008).

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**ABSTRACT**

Alcohol contributes substantially to the global burden of disease. Alcohol consumption is not only associated with an individual’s health in general, but also with all types of injuries. More than half of all homicides and traffic-related deaths in South Africa are associated with alcohol. This Chapter elaborates on one of the hidden effects of alcohol, i.e. the adverse effects (harm/injury) of maternal drinking on the unborn child that may result in a spectrum of disorders referred to as Fetal Alcohol Spectrum Disorders (FASD). FASD is claimed to be the most frequent cause of preventable mental handicap in the world and is devastating in its lifelong effects on the affected person. South Africa, with the highest measured FASD prevalence rate in the world in some high risk communities, has no integrated national strategy or policy to deal with the phenomenon at present, and no ongoing surveillance is taking place in the country. Important achievements in the field of identifying, assessing prevalence and prevention of FASD have been reached through the work and involvement of the Foundation for Alcohol Related Research, constituted in 1997 as a non-profit organisation. Since then, important projects by a range of national and international organisations and universities are being conducted to explore strategies to reduce the harmful alcohol use by pregnant women and women in general.

**Keywords:** pre-natal alcohol abuse, Fetal Alcohol Syndrome (FAS), FASD, FASD surveillance, FASD prevention

**INTRODUCTION**

Alcohol contributes substantially to the global burden of disease (4% of total mortality and 4-5% of disability-adjusted life years), and thus is one of the largest avoidable health risk factors (Rehm, Mathers, Popova, Thavorncharoepsap, Teerawattanano & Patra, 2009). There is a clear association between alcohol consumption and the health of individuals. There is also a clear association between alcohol consumption and the health of individuals. There is also a clear association between alcohol and all types of injuries (Krug, Dahlberg, Mercy, Zwi & Luzano, 2002; Rehm *et al.*, 2004). In South Africa 58% of homicide deaths and 57% of road traffic crash deaths are associated with alcohol use (Matzopoulos, 2005). Despite the fact that many South Africans do not drink alcohol, alcohol abuse results in a considerable health burden in South Africa (Schneider *et al.*, 2007). Household surveys...
indicate that currently approximately 50% of men and 20-30% of women drink alcohol in South Africa, although this is probably an underestimation (Schneider et al., 2007). While consumption per adult is 7.1 litres of pure alcohol per year, the amount of alcohol consumed per drinker in South Africa is estimated at about 20 litres of absolute alcohol per year (Schneider et al., 2007) – among the highest in the world. In the SA Demographic and Health Survey (SADHS) of 1998 it was reported that one-third of drinkers reported risky drinking over weekends, i.e. five or more drinks per day for men and three or more drinks per day for women. Binge-drinking is a well recognised, problem-drinking pattern in South Africa and refers to more than five drinks per sitting. Alcohol harm accounted for 7.1% of all deaths and 7.0% of all DALYs (disability adjusted life years) in South Africa in 2000. Alcohol harm ranked third in terms of percentages of total DALYs for 17 risk factors included in the SA Comparative Risk Assessment (CRA) study after injuries and cardiovascular incidents.

However, the full impact of alcohol on the health of the individual and the wider community is difficult to estimate due to many hidden effects resulting from its use. Rehm et al. (2009) state that, for alcohol, the usual epidemiological model should be widened, since drinking can also harm the health of non-drinkers, for instance, maternal drinking can affect the health of the unborn baby, or driving under the influence of alcohol can harm pedestrians and other road users. In this Chapter the focus will be on:

a. Maternal drinking and the adverse effects (harm/injury) this can have on the unborn child.

b. The epidemiology of fetal alcohol spectrum disorders (FASD) in South Africa and globally.

c. Prevention interventions.

d. The role of different state departments in prevention actions.

e. Policy formulation.

FASD is not typically included in the injury prevention literature, but together with the effect of other harmful substances such as paraffin and organophosphates on the body, alcohol ingestion can be seen as a chemical substance which is harmful or injurious to the body (maternal drinking is harmful to an unborn child).

WHAT ARE FETAL ALCOHOL SPECTRUM DISORDERS

Fetal alcohol syndrome (FAS) was first described by Lemoine in France in 1968 and as an entity in the USA in 1973 by Jones and Smith (Jones & Smith, 1973). The earliest references to specific cases of newborns with FAS in South Africa were made in 1978 by Beyers and Moosa (1978), and Palmer (1978). Following a 12-month survey of births at a Cape Town hospital, Palmer reported the frequency of FAS as 1/281 live births in 1985.

FAS is the severe end of a spectrum of deleterious effects caused by maternal alcohol use during pregnancy and is one of the leading causes of preventable birth defects and developmental disabilities globally (Centres for Disease Control [CDC], 2003). It is viewed as the most frequent cause of preventable mental handicap in the world and is devastating in its lifelong effects and the serious sequelae in affected persons (Viljoen, 2009). The clinical features of FAS include central nervous system abnormalities (resulting in low intelligence, behavioural impairments and poor social judgement), characteristic facial dysmorphology, growth retardation, as well as abnormalities of organs and limbs (Stratton, Howe & Battaglia, 1996; Streissguth, 1997). The term FASD, describes the range of effects that can occur when an individual is prenatally exposed to alcohol. As mentioned, FAS is the most severe category followed by partial FAS (PFAS), alcohol-related neuro-developmental disorders (ARND) and alcohol-related birth defects (ARBD). FAS(D) may also lead to severe social and
psychological consequences for the individual child and for the family because of the child’s mental and behavioural handicap.

South Africa has the highest measured FAS rates in the world (McKinstry, 2005; Rosenthal, Christianson & Cordero, 2005). Prevalence rates in excess of 40 cases per 1000 of school-entry children in targeted towns in the Western and Northern Cape have been measured (May et al., 2005; Urban et al., 2008; Viljoen et al., 2005). In Gauteng a rate of more than 20 cases per 1000 school-entry children was identified in four at-risk communities (Viljoen et al., 2005). This is in sharp contrast to the average rate of FAS for the USA quoted as between 0.05-2.0 per 1000 children (May et al., 2005) and the average rate for high income settings as 0.97 (Mc Kinstry, 2005). Prevalence rates among selected high-risk groups in the USA are eight per 1000 live births for First Nation Americans; 8.5 per 1000 live births for Northern Plain Indians, and for African Americans in selected inner city areas with a low socio-economic status, 2.29 per 1000 live births (CDC, 2003; Viljoen et al., 2005). In Table 1 FAS prevalence is presented for different countries.

The reasons for South Africa’s high FASD burden are incompletely understood, and relate to risky maternal alcohol consumption and other maternal, personal, social and perhaps genetic factors that increase the risk of FASD – the answers are multifaceted (Urban et al., 2008). Whilst the exact dose that may cause harm is not known, regular binge-drinking (heavy episodic drinking of five or more units of alcohol per occasion) is the most risky drinking pattern for FASD.

The dop or tot system is believed to have played a determining role in entrenching binge-drinking on wine farms in the Western Cape. It had its origins in the early years of colonial settlement in the Cape Colony. It was a particular feature of the agricultural system to pay farm workers with alcohol as part of their wages. This practice was outlawed in 1961, but the legacy of the historical institutionalisation of drinking on farms is still widespread (London, 1999). However, one should be careful of the stereotype that FASD is peculiar to coloured communities that comprise the local workforce in the Western Cape in present times. Research findings show that the FASD rate is higher in De Aar (a sheep-farming area) and Upington (a wine-farming area), and that there was no overall difference in FAS/PFAS between black and coloured subjects in these two towns. Therefore, at present, FASD is not limited to wine growing areas or to a specific ethnic group (Urban et al., 2008).

There is no doubt that FASD is a huge public health problem in South Africa that requires immediate and decisive attention. In a South African Comparative Risk Assessment study for 2000 (Schneider et al., 2007), FAS ranked third at 18.1% (after alcohol use disorders at 44.6% and interpersonal violence at 23.2%) in terms of alcohol attributable disability.

In general, there is limited data on the prevalence of alcohol consumption during pregnancy. Prenatal drinking varies among and within populations

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globally. According to May et al. (2008) 20-32% of pregnant women drink alcohol in the USA, England and Canada. In some European countries the rate is higher, sometimes exceeding 50%. In South Africa different studies reported different consumption levels for alcohol. Reported use of alcohol by pregnant woman varied from 13% (Marais & Jordaan, 2005) to 43% of women reporting varying degrees of alcohol ingestion during their respective pregnancies (Croxford & Viljoen, 1999; Te Water Naude, London, Pitt & Mahomed, 1998). If we presume that almost half of pregnant women in high-risk communities consume alcohol during their pregnancies, it is crucial to introduce basic steps that will identify pregnant women who are risky drinkers. A combination of screening, followed by brief interventions (a time-limited, patient-centred counselling strategy focusing on changing patient behaviour and increasing patient compliance), is widely recommended as a first approach to identification and treatment for mild to hazardous drinking problems (Babor & Higgins-Biddle, 2001; Marais et al., 2010).

AWARENESS ABOUT FAS(D) AND ALCOHOL USE/ABUSE
Raising the awareness of the general public through public campaigns is the first and very important step towards prevention. Not many studies have been undertaken on the level of awareness of FASD amongst professionals and lay people in South Africa. Two studies focusing on clinic patients in the Western Cape showed a high awareness of the harmful effects of alcohol to the fetus (Croxford & Viljoen, 1999; Marais & Jordaan, 2005). In one rural and one urban community more than 90% of the women on routine visits to clinics knew about the harmful effects of drinking alcohol and smoking tobacco during pregnancy. More than a third of the women said they had heard of FAS (35%). Of these women, 51% could give a more or less correct description of what FAS is, and a further 21% had some vague idea as to what it is. The clinic staff members were their main source of information (51%), family and friends (25%), television and radio (23%), and the printed media (22%), according to Marais and Jordaan (2005).

Staff members were also asked about their knowledge on alcohol and FAS. All respondents (N=29) knew that the use of alcohol by pregnant women might have a negative effect on the unborn child, and all respondents were familiar with the concept of FAS. Questions on characteristics that could differentiate children exposed to alcohol from other children were well answered by the majority of respondents (Marais & Jordaan, 2005). However, all staff members indicated that they needed further training on the effects of alcohol on the unborn child, as well as to identify, manage, counsel and refer high-risk mothers. They felt unprepared and uncertain about dealing with FAS and giving appropriate advice regarding the use of alcohol and the effects on the fetus. Knowledge alone does not necessarily lead to prevention. Although awareness of the effects of alcohol among clients and staff seems high in these studies, the high prevalence of FAS in those communities indicate that different strategies should be followed by health care services to try and deal with the problem.

An early and correct diagnosis of FASD is of great value in improving opportunities for early intervention and management for the affected child and for reducing fetal exposure to alcohol in subsequent pregnancies (Payne et al., 2005). Staff should not only have the knowledge about FASD, but should also be trained to use screening tools and to administer brief interventions as routine measures to identify and treat risky alcohol drinkers. Until this lack is addressed, opportunities for diagnosis and prevention of FASD will be limited (Payne et al., 2005).
FAS(D) SURVEILLANCE
The success of any public health programme can be measured by comparing the incidence or prevalence of a particular problem before and after implementing an intervention. In the case of FAS(D), the literature indicates that methods to determine the prevalence and epidemiology of FASD is far from consistent or conclusive (Institute Of Medicine [IOM], 1996; Urban et al., 2008). The consistency (and overall epidemiologic) methodology should be improved. Generally, it remains difficult to reconcile incidence and prevalence rates between studies. Key issues mentioned in this regard include: variation in methodologies and definitions in case findings and diagnosis, wide variation in the types of populations studied, inconsistency of data gathered by prospective, versus retrospective methods; and the improvement of surveillance techniques.

The clinical identification of a child with FASD (usually between 3-10 years old) is a specialised procedure because of the complexities of the diagnoses. FASD is usually diagnosed on the strength of abnormalities in each of the following categories:
• Growth retardation.
• Central nervous system abnormalities, such as developmental delay, behavioural dysfunction or deficit, intellectual impairment and brain malformations.
• Structural abnormalities, such as characteristic facial features.
• Confirmation of maternal alcohol consumption, wherever possible (May, 1995; World Health Organization [WHO], 1996).

All of the above characteristics have to be present to make a positive diagnosis of FAS. For instance, diminished structural growth and/ or developmental delay on its own may be the consequence of malnutrition, general poor health or lack of stimulation, associated with poverty and/ or dysfunctional family structures. Developmental delay, similarly, may be caused by other forms of mental disability. Extreme caution should therefore be taken before labelling a child. It is also necessary to study the social and biological characteristics of the mother. Increased understanding of the maternal characteristics and social variables that influence FAS(D), is important.

The diagnosis of FASD should be made by a specialised multi-disciplinary team, consisting of a professionally trained dysmorphologist (a medical specialist who recognises abnormal features in a person), following strict criteria laid down in the medical literature (Hoyme et al., 2005). The team also usually includes a neuro-developmental psychologist, and a trained counsellor. Diagnostic services for FASD are limited because of the necessity of well-trained and skilled professionals.

In South Africa the prevalence of FASD in the general population is essentially unknown, because there is no surveillance system in the country. So far, prevalence of FAS and PFAS has been calculated for targeted high-risk communities in the Western and Northern Cape, as well as Gauteng. The diagnosis of FAS/PFAS remains clinical, and optimal criteria will remain under debate for the foreseeable future (Urban et al., 2008). There is ongoing refinement as to how to make the most accurate diagnosis of FAS and the other disorders in the FASD continuum.

Diagnostic guidelines and tools have been developed in different countries in the world, including the revised Institute of Medicine guidelines (IOM, 1996), the Canadian guidelines for diagnosis, the CDC guidelines and the British Medical Association FASD guide for health care professionals (Rendall-Mkosi et al., 2008). A lack of standardised diagnosis affects identification of both diagnostic criteria and risk factors and studies exploring prevalence and risk factors may not be fully comparable (Sampson, Streissguth, Bookstein & Barr, 2000). However, work
already conducted in South Africa has contributed greatly to the refining of the IOM (1996) guidelines, as well as ensuring that they are locally applicable (May et al., 2000).

Estimates of incidence and prevalence of FASD as reported in the published literature are usually measured in three different ways: information collected passively for another or for many purposes, such as birth defect registries, information gathered either retrospectively or prospectively from hospital- or clinic-based registries and population-based active case ascertainment as is being done in South Africa (IOM, 1996). Information that measures incidence or prevalence of traits or characteristics associated with FASD and not the incidence of FASD itself is also used, such as alcohol intake by pregnant women. Each of these methods has their advantages and disadvantages. According to Viljoen (personal communication, June 20, 2009) there is scope for surveillance in South Africa to determine prevalence. He suggests the diagnostic assessment of school-entry children who have been randomly-selected from multiple district regions within all nine provinces.

WHAT HAS BEEN ACHIEVED IN SOUTH AFRICA SO FAR?
The achievements in the field of identifying, assessing prevalence and prevention of FASDs in South Africa, cannot be discussed without referring to the involvement and achievements of the Foundation for Alcohol Related Research (FARR). FARR was constituted in 1997 as a non-profit organisation and has evaluated communities in three provinces in the country for FAS/FASD up to the present. The need for this research followed a basic audit of clients investigated at genetic clinics undertaken by the Department of Health (DoH), Western Cape Province, and the Universities of Stellenbosch and Cape Town. It was discovered that 1 in 10 children referred to these specialist clinics had the full stigmata of FAS. The FARR organisation has since used every avenue to inform the general public, health, social and educational planners, and other professionals, funding organisations and research groups regarding FASD. FARR has been fairly successful in garnering support, especially from federally-funded research groups in the USA such as the NIAAA (National Institutes for Alcoholism and Alcohol Abuse) and CDC in researching prevalence, risk factors, social conditions, behavioural pattern changes, genetic factors, speech and language deficits and many other challenges associated with FASD. FARR’s most telling research has emerged in publications revealing the very high prevalence of FASD in several communities studied (see Table 1).

Apart from the contribution by FARR on prevalence studies in certain high-risk communities, other significant research findings by FARR and collaborators are briefly summarised below:

- Maternal risk factors associated with having a child with FASD, have been elucidated. These risk factors include binge drinking of large amounts of alcohol during pregnancy, poor socio-economic circumstances, cigarette smoking, low religiosity, limited education, single parenthood and maternal depression (May et al., 2005; Viljoen, Croxford, Gossage, Kodituwakku & May, 2002). Morojele et al.’s (2010) study on predictors of risk of alcohol-exposed pregnancies among women in a rural and urban area in South Africa, add the following factors to those mentioned above: the partner’s and family members’ alcohol consumption pattern, age of onset of drinking, physical characteristics (height, weight, BMI). According to Morojele et al. (2010) these maternal risk factors are similar to risks in other parts of the world. Interestingly enough, though, they found contrasting risks for rural and urban sites. Risks for alcohol-exposed pregnancies in urban areas were a mother
who smokes, few or no children, minimal religious involvement, high self-esteem, and high reported access to recreational facilities such as bars and shebeens. In contrast, women in rural areas who were at risk for alcohol-exposed pregnancies, were impoverished and marginalised, a smoker with few or no children, low self-esteem and minimal education.

- Photogrammetry (three-dimensional photography) has been developed for the possible future diagnosis of FASD and has been demonstrated as remarkably specific and sensitive. The evaluation of several hundred children has been reported in many publications from FARR’s collaborations with the Medical Imaging Unit at the University of Cape Town (Douglas, Meintjies, Vaughan & Viljoen, 2003). Such methodologies can immediately form the basics of surveillance in whole populations.

- Cognitive and motor development in children with FASD has been evaluated amongst high-risk South African populations. Children have demonstrated deficiencies in several neurological domains including speech and hearing, performance, practical reasoning and eye/hand co-ordination. Surprisingly, loco-motor subscales were relatively unaffected (Adnams et al., 2001).

- Genetic effects have been demonstrated in families where polymorphisms of the ADH2 *2 molecule were significantly more common in controls than amongst FASD-affected coloured persons in the Western Cape. This finding suggests that susceptibility in mothers and their offspring to FASD is increased because metabolism of alcohol is slower in these persons leading to higher blood alcohol concentrations compared with control subjects without FASD. These studies were the first reported in the literature to assist in understanding susceptibility to FASD amongst different populations (Viljoen et al., 2001).

- A new biomarker of fetal exposure to alcohol was reported in a study of meconium (first stools passed by the baby after delivery) where ethyl-oleate concentrations were much higher in newborns exposed to recent alcohol use in their mother. This is a highly sensitive and specific indicator of maternal alcohol exposure during the latter stages of pregnancy (Bearer et al., 2003).

- The effect of prenatal alcohol exposure on infant visual acuity was demonstrated amongst children exposed to alcohol in a South African collaborative study. This was assessed by Teller Acuity Cards at six months post-delivery. The finding was consistent with clinical and visual evidence of alcohol-related disruptions of the visual pathways (Carter et al., 2005).

**WHAT IS BEING DONE ABOUT PREVENTION?**

The prevention of FASD is, essentially, a social issue. There is consensus in the literature that alcohol and other substance use during pregnancy is linked to many factors impacting on the lives of mothers, their children, their families and significant others, and that solutions to problems of substance abuse should therefore be anchored in a multi-level, comprehensive and integrated approach of outreach, identification, referral and appropriate support (May, 1995; Roberts & Nanson, 2001). The aim should be to work within a model or framework that includes a broad spectrum of interventions and targets with different levels of intensity depending on the inputs required. A model suggested by Roberts and Nanson (2001) is a stepped care model that allows for a continuum of interventions (May, 1995). This model is based on the premise that intervention starts on the least intensive level first, e.g., with screening of clients and a motivational talk, and then by means of...
improved methods, when a less intensive treatment is ineffective. Brief interventions have been effective for some women, while others would require more intensive treatment and/or referral.

Intervention programmes to reduce drinking during pregnancy are usually classified into universal efforts (increasing the general public’s knowledge and awareness of the consequences of alcohol use during pregnancy); selective efforts (screening of all women in their reproductive years who are at risk, for instance women who drink alcohol); and indicated efforts (directed towards the women at greatest risk – women who have a history of drinking during pregnancy or who already have a child or children with FAS(D) (Hankin, 2002).

Because of research initiatives and efforts by the Maternal, Child and Women’s Health sub-directorate of the Provincial DoH over the past decade, the Western Cape has been a focus of raising public knowledge and awareness on alcohol abuse during pregnancy (universal prevention efforts). Many NGOs contribute to these efforts in the area, for instance, FARR, Cape Women’s Forum, Dop-stop, Women on Farms, FAS-facts, Reproductive Research Unit’s adolescent-friendly clinic initiative and LoveLife Programmes. Current research projects fall within the selective and indicated prevention field and researchers are pointing out the importance of introducing a basic screening system at the primary care level that would identify women who have hazardous and harmful drinking patterns.

Current prevention projects

The Witzenberg Programme
FARR and the Medical Research Council, funded by the Western Cape Department of Social Development, are involved in a multi-faceted preventative project in the Western Cape’s Witzenberg sub-district. The project includes the following phases: A cluster, randomised trial testing the use of brief interventions during pregnancy to change drinking behaviour (2007); follow-up of all babies at eight months by a medical doctor to evaluate for fetal alcohol outcomes (2008); a prevalence study of FAS/PFAS in the district evaluating a random sample of school-entry children (2009); and lastly, the training of health care workers in clinics to implement the positive effects of brief intervention (BI)s, as proven in the first phase of the project. Results from international studies confirm that BIs have positive results (Marais et al., 2010). This project is important, because it is the first randomised control trial in South Africa showing a significant change in drinking behaviour in the intervention group after applying brief motivational interventions. There were also changes in the control group’s drinking behaviour, although a significant change was not shown. The findings showed that women who are open about their drinking habits are ready to change their drinking habits.

These results are similar to those from other attempts to modify prenatal alcohol consumption reported by Chang, Goetz, Wilkens-Haug and Berman (1999), Handmaker and Wilbourne (2001), O’Connor and Whaley (2007) and the WHO Brief Intervention Study Group (1996) demonstrating declines in both intervention, as well as control groups. It seems to be beneficial to have more than one session of BI, especially in the case of excessive drinking. One to three patient consultations have consistently shown significant reductions in problem drinking in comparison to no consultations (Dore, 2000; Handmaker & Wilbourne, 2001). This study confirms the importance of routine screening for prenatal alcohol use patterns and the necessity of offering information and support during pregnancy in a sustainable way.
Northern Cape FASD Prevention Programme
On invitation from the Northern Cape DoH (and local municipalities), FARR conducted FASD prevalence studies in De Aar and Upington in 2001-2002. Grade 1 learners of all the local schools were assessed and appraised. A prevalence rate of 122/1000 was found in De Aar and 69/1000 in Upington. The De Aar rate is still the highest reported rate, to date, in the world. Following these prevalence studies, FARR started with comprehensive FASD prevention programmes in both communities. This has resulted in an estimated 30% drop in the FASD rate (data currently being analysed). The focus areas outlined below are key components to this programme.

Universal awareness
At the onset of the programme there was very little, if any, knowledge of FASD in the Northern Cape. The Department of Education (DoE) reported high failure rates, truancy and learning disabilities amongst learners, but none of these were linked to alcohol abuse. FARR invested considerable time and effort into raising the awareness regarding FASD through the local media. This drive not only increased the knowledge regarding the problem, but also created more focus on women who are using and abusing alcohol during pregnancy. The support from government departments remain, unfortunately, at a level where the key departments are very interested and supportive of the programme and regularly reports on the work done by FARR.

Selective awareness
Data obtained from the prevalence studies in Upington and De Aar enabled FARR to identify the high-risk communities within these two areas. Intensive awareness programmes are being conducted in these communities involving innovative techniques such as radio dramas, industrial theatre productions, drum majorettes, open days, sport events and motorbike rides. Educators of local schools, especially in De Aar, regularly receive considerable support in terms of training, referrals to the FARR centre and outreach programmes. FARR staff in De Aar work in close liaison with the service providers from the DoH and DSD.

Indicated awareness
FARR has developed an intensive awareness and support programme for pregnant women, based on experiences from the MRC Witzenberg project, research results from the projects in the Northern Cape, and in line with the antenatal and primary health care services of the DoH in the Northern Cape. The programme is called the Healthy Mother – Healthy Baby Project and involves all the pregnant women in the area. The project is currently in its third year. So far, FARR has received positive feedback regarding this intervention.

The University of Pretoria, the University of Cape Town and the Medical Research Council Prevention Programme
This programme is funded by the CDC, Atlanta, are involved in a comprehensive FAS prevention programme conducted in Pretoria and the West Coast areas. They are exploring strategies to reduce harmful alcohol use by women in general, reducing alcohol use in pregnancy and promoting the planning of pregnancies. The programme includes general awareness-raising. An article on predictors of risk of alcohol-exposed pregnancies among women in an urban and rural area has been published (Morojele et al., 2010).

The University of Nieu-Mexico the University of Stellenbosch and the Medical Research Council Study
This study is funded by the NIAAA, are involved in a comprehensive multi-site prevention study in the Western Cape. This study is based on the FAS prevention programme that is informed by the Institutes of Medicine in the USA and also aims to
address HIV and AIDS risk factors associated with excessive drinking (Rendall-Mkosi et al., 2008).

(LACK OF) POLICY RELATING TO THE PREVENTION OF FASD
There is no integrated national strategy or policy to deal with the problem of FASD in South Africa. In the Western Cape FASD was declared a provincial health priority between 2001 and 2002 as a result of the initiative of the Western Cape DoH, specifically the Maternal, Child and Women’s Health sub-directorate that has been active in the management and coordination of FASD initiatives since the 1990s. A provincial FASD-reference group was established at that stage and regional coordinators were identified and appointed in different regions of the province. A provincial standardised training manual was developed by the FASD-reference group. The manual was launched in 2003 when the first 20 health workers were trained. At present, the importance of FASD prevention is acknowledged by the Western Cape DSD and attempts to address this concern via their Provincial Substance Abuse Programme, which is aligned to its National Drug Master Plan (NDMP) of 2007. National priority areas defined by the NDMP are, amongst others, substance abuse among women in their reproductive years, teenage pregnancies, FASD, multi-drug resistant TB and sexually transmitted diseases such as HIV/AIDS.

In some high-income countries legislation and task teams for action to prevent FASDs have been established. In the USA the CDC was instrumental in the establishment of a National Task Force on FAS and FASD in 2000, after a specific Public Service Act directed the establishment of such a task force. The main aims of the task force are to provide advice to all relevant persons in various programmes on the prevention and support required in relation to FASD; to coordinate efforts through their health department; and to report to the relevant committees on a regular basis (Rendall-Mkosi et al., 2008).

In Canada the Government takes a holistic, integrated approach to FASD, recognising that FASD is not just a health issue but has long-term societal and economic implications. Federal departments work in an integrated manner on prevention and awareness approaches, as well as on advancing joint work around FASD-related data collection and reporting. Federal FASD work is undertaken in partnership with provinces and territories, first nation organisations, communities and stakeholders. In the UK the national organisation on FAS (NOFAS-UK) works with the DoH to initiate new FASD research strategies, information, care and support.

ROLE OF STATE DEPARTMENTS IN THE PREVENTION AND MANAGEMENT OF FASD
The identification, management and prevention of FAS and FASD require an inter-sectoral and multi-disciplinary task team. It also includes the mother, her affected child, her spouse and their immediate community. More than one department needs to be involved in this multi-faceted task, i.e. at least the DoH, DSD, DoE, and the Department of Agriculture. Given the lack of comprehensive prevention
strategies in South Africa, a first step would be to inform personnel in the above four departments about the magnitude of the problem and propose suggestions for possible interventions. Experience and research findings have shown that primary health care staff, social workers and especially educationists working with affected children do not have the necessary skills and knowledge to cope with the problem. FARR, through their training academy, offers training to professionals, by capacitating them to develop FASD prevention and management programmes. But most importantly, it will require the commitment of policy makers and planners, as well as the motivation of staff, to really make a difference in the coming years.

Research in the Witzenberg sub-district of the Western Cape has shown that, with basic and detailed information and support, mothers were willing to change their drinking behaviour during pregnancy (Marais et al., 2010). On the other hand, children with FASD have a range of developmental, cognitive, behavioural and communication problems that can benefit from early intervention strategies. The needs of children with FASD are most noticeable in the schools where the teachers are ill-equipped to adapt their teaching and classroom environments to cater for learning and behavioural difficulties of children with FASD. However, interventions have shown that despite cognitive disabilities, children with FASD have shown significant cognitive improvements following a classroom intervention targeted at literacy and linguistic skills (Adnams et al., 2007). Ideally, these interventions should become routine.

Unfortunately, as documented results reveal, the South African government departments and social organisations have been slow to respond to the pandemic of FASD found in susceptible communities (Viljoen, 2009). Due to the other disorders prevailing in our country (HIV/AIDS, malaria, TB and malnutrition) health planners appear reluctant to part with significant resources to combat FASD.

**FASD AND THE JUSTICE SYSTEM**

It has been mentioned earlier that alcohol abuse during pregnancy leads to central nervous system abnormalities, resulting in low intelligence, behavioural problems and poor social judgement. Because of reduced ability to think abstractly, FASD-affected individuals do not understand cause and effect, including an appreciation of the consequences of their actions. They are easily influenced by others and frequently are forced to engage in criminal activity. Statistics show disproportionately high rates of incarceration among people with FASD as a concomitant factor (Mitten, 2004). Their high susceptibility to negative peer influences, as well as being vulnerable to victimisation, make artificial settings such as incarceration inappropriate deterrents for them. No research on this topic has been conducted in South Africa yet.

A related, but different issue, is whether a FASD-affected child should be seen as a victim of abuse by the mother and whether her drinking behaviour and the effect on the fetus should be criminalised. It is argued that, by exposing the fetus to a teratogen, the mother is causally and arguably morally, responsible for the outcome (Mukhergee, Eastmen, Turk & Hollins, 2007). This suggestion is also being put forward by some criminologists, notably Michele Ovens (Ovens, 2009). Although a substantial body of research is being done on FASD in South Africa, the link between maternal alcohol use/abuse and child abuse is unique. Ovens states that maternal drug abuse can be viewed as a social welfare issue within the harm reduction approach, or it can be criminalised within the punitive approach. It is therefore a debate whether the mother should be held responsible for the adverse results of her drinking on her unborn child. The question whether the mother is aware of the consequences of her actions, would obviously be an important one,
if punishment in any form is considered. This is an interesting and novel idea in the field of FAS research. Ovens further proposes the development of a drug policy dealing with drug dependency in pregnant women. She states that “research is also necessary to determine whether a drug policy should include the criminalisation of substance abuse by pregnant women” (Ovens, 2009, p. 503).

Drug-related child abuse is defined as the deliberate or unintended physical and/or emotional abuse and/or neglect of a child by a drug-dependent parent (Ovens, 2009). This can be reflected on three levels, namely drug abuse affecting the cognitive and/or emotional abilities of the parent, which contributes to the parent abusing the child; the child may become a victim to tranquillisers given by the mother to keep the child docile; and damage done to the fetus in the case of prenatal abuse of drugs by the mother. Ovens argues that the fetus has limited rights – while the Child Care Act 1999 protects the child from abuse, no protection or rights are offered to the fetus of the substance-abusing mother in South African legislation. This is also the case in UK and USA law – the fetus does not possess rights equivalent to those of a person. This implies that a mother in these countries can currently not be held criminally liable for fetal injury (Mukhergee et al., 2007). The crucial question remains whether child abuse should include drug-related abuse by the mother.

RECOMMENDATIONS AND CONCLUSION
The impact of alcohol on the lives of ordinary citizens in South Africa is devastating. More than half of homicide and traffic-related deaths are associated with alcohol. The hidden effects resulting from the use of alcohol such as FASD and its impact on the lives of affected persons are not yet fully grasped by different state departments and policy makers in this country. It is estimated that one million individuals in South Africa suffer from FASD. Great strides have been made as far as research and awareness-raising is concerned, but more work is needed on all levels of prevention to bring down the prevalence rate in this country. The following are recommended to reach this goal:

• Universal prevention by way of awareness campaigns by NGOs are very important and will continue. Most of this work is presently concentrated in the Western Cape and Northern Cape. NGOs should expand their work to other provinces as well.
• Involvement of the National DoH is crucial. Important research findings should be incorporated into the routine tasks of health care workers in the country, such as screening and brief motivational interventions for women at risk of experiencing alcohol-affected pregnancies.
• A countrywide surveillance system should be developed. This Chapter suggests that school-entry children are randomly selected from multiple district regions within all nine provinces and tested for FASD. Setting up such a surveillance system is another task requiring buy-in from the National DoH.
• Children with FASD and the teachers teaching these children need support. The DoE should become involved to make use of training packages on FASD so that their staff members understand what the handicaps of these children are and how to deal with them.

Key messages
• FAS is 100% preventable, but 100% irreversible.
• FASD is a huge public health problem in South Africa with the highest prevalence in the world.
• Brief motivational interventions with pregnant women have been shown to change their drinking behaviour.
• Because children with FAS do not distinguish between right and wrong, they are often lured into criminal behaviour. Incarceration is the worst penalty they can receive.
• FASD is a hidden effect of the impact of alcohol on the health of individuals and the community.
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ABSTRACT
This Chapter considers the particular nature and context of child traumatisation in South Africa, the documented psycho-social impacts of trauma and violence in South Africa and elsewhere, the factors that may increase or reduce the risk of adverse psycho-social consequences among children who have experienced trauma and violence, and the intervention approaches that have been advocated to assist traumatised children. While South African research on the psycho-social impact of trauma has grown in recent years, there is still a lack of local data on developmental aspects of trauma, on risk and protective factors, as well as effective intervention strategies. Localised, context-specific knowledge is necessary in order to inform mental health policy and service provision. Recommendations for future research to advance this goal, and for strategies to improve psycho-social support for traumatised children in South Africa, are suggested.

Keywords: trauma, violence, South Africa

INTRODUCTION
Given South Africa’s high rates of child physical and sexual abuse, criminal victimisation of children, and school-based violence (Burton, 2006; Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009), together with a high burden of childhood accidental injury both within and outside the home (Matzopoulos, du Toit, Dawad & Van As, 2008; Van Niekerk, du Toit, Nowell, Moore & Van As, 2004), many young South Africans are at risk of poly-victimisation, or exposure to different types of trauma across multiple settings. For children living in these circumstances, traumatisation is more of a ‘condition’ than an ‘event’ (Finkelhor, Ormrod & Turner, 2007).

Living within a context of multiple and continuous trauma exposure, with few safe spaces, poses a different set of psychological challenges and requires different intervention approaches to those that have been well-documented for children and adolescents who experience single traumas or those who experience ongoing abuse in only one setting. Furthermore, for many South African children, multiple traumatisation occurs within a broader resource context of poverty, with its attendant burden on family structures and parental coping capacities (Kiser & Black, 2005; Klebanov, Brooks-Gunn & Duncan, 1994), an inadequate educational system (Fiske & Ladd, 2004) and limited mental health services for children (Lund, Boyce, Flisher, Kafaar & Dawes, 2009). These factors may compound the impact of trauma exposure and place constraints on intervention options. However, not all South African children who repeatedly experience potentially traumatic events will suffer mental health difficulties. The development of mental health policy...
for children affected by trauma and violence in South Africa must, therefore, be grounded in a careful analysis of the mental health risks posed by different forms of trauma exposure and by cumulative traumatisation, the factors that buffer the impact of such exposure, and a systematic evaluation of the effectiveness of intervention programmes that are contextually responsive. This Chapter reviews:

a. The current state of knowledge about the impact of trauma on children’s mental health and development.

b. The risk and protective factors that moderate the impact of trauma exposure, with an emphasis on findings from South African research.

c. The intervention approaches for assisting traumatised children and the evidence to support them.

The Chapter also offers some recommendations for enhancing our understanding of the impact and treatment of childhood traumatisation in South Africa, and for improving psycho-social services.

**PSYCHO-SOCIAL IMPACT OF TRAUMA EXPOSURE ON CHILDREN**

**Defining trauma**

The term ‘trauma’ has several meanings. In a medical sense, it refers to a physical wound or injury. However, this Chapter is concerned with psychological trauma. In the contemporary psychological literature, the term ‘trauma’ refers to external experiences that place excessive demands on people’s existing coping strategies and create severe disruptions to many aspects of psychological functioning. Research has found that events involving some form of physical threat to oneself or someone else are most likely to result in symptoms of Post-Traumatic Stress Disorder (PTSD), (American Psychiatric Association, 2000). These events may, occasionally, involve actual physical injuries. However, whether or not a physically threatening event such as a sexual assault by a teacher, a burn injury, witnessing an act of family violence, or receiving a severe beating by a parent will constitute a ‘trauma’ depends on the child’s psychological response to the event. Many children experience physically threatening or extremely distressing events without suffering any significant disruption to their psychological functioning. When referring to ‘trauma’, it is therefore important to distinguish between potentially traumatic events and the traumatic stress symptoms that sometimes develop in the wake of such events.

**Psycho-social consequences of exposure to potentially traumatic events**

PTSD is the most extensively researched post-traumatic response amongst both adults and children. The DSM-IV-TR (American Psychiatric Association, 2000) describes three symptom clusters in PTSD: persistent re-experiencing of the trauma (for example, intrusive memories and flashback experiences, often triggered by exposure to traumatic reminders), avoidance of traumatic reminders (including places, people and conversations) together with a general numbing of emotional responsiveness, and chronic physiological hyperarousal, including sleep disturbances, poor concentration, and hypervigilance to threat. The DSM-IV-TR notes that, in children, re-experiencing may occur through repetitive play involving trauma-related themes, rather than through memories. Following a traumatic experience, it is normal and expectable for both children and adults to exhibit some transitory intrusive, avoidance and hyperarousal symptoms, which usually remit spontaneously within a few days or weeks. In order to meet the PTSD diagnosis, symptoms should be present for at least one month, and must cause the child significant distress or substantially impair their daily functioning.

Epidemiological studies of childhood PTSD in economically developed countries like the United States (Breslau, Wilcox, Storr, Lucia & Anthony, 2004; Kilpatrick & Saunders, 1997) and Germany (Perkonigg
et al., 2005) tended to include adolescents rather than younger children, and have reported prevalence rates of between 1% and 6.3% for boys, and 2.2% and 7.9% for girls. Similar epidemiological data for child and adolescent PTSD is still lacking in South Africa. However, several studies with school-going samples aged 10 years and older have found that over 20% of participants have enough symptoms for a PTSD diagnosis (Ensink, Robertson, Zissis & Leger, 1997; Seedat, Nyamai, Njenga, Vythilingum & Stein, 2004; Suliman et al., 2009). Some other studies of post-traumatic symptoms among children in South Africa have yielded lower rates of risk for full-blown PTSD, such as 8% in a study of children in the Northern Province (Peltzer, 1999) and 5.8% of adolescents in a study of private schools in Cape Town (Ward, Flisher, Zissis, Muller & Lombard, 2001), but found high rates of sub-clinical traumatic stress symptoms. In line with international findings (Margolin & Gordis, 2000; Turner, Finkelhor & Ormrod, 2006), trauma-exposed youth in South Africa also frequently report symptoms of depression and anxiety (Ensink et al., 1997; Suliman et al., 2009; Ward et al., 2001). Because the majority of South African studies have relied on self-report symptom scales rather than structured psychiatric interviews and the collateral reports of parents and teachers, it is unclear to what extent the psychiatric symptoms reported by trauma-exposed children are of clinical significance and would require intervention. It is also not yet clear which specific forms of trauma exposure create the greatest risk for particular psychiatric symptoms. Some studies have found that the overall level of exposure to community violence is more strongly predictive of emotional and behavioural symptoms amongst children (Barbarin, Richter & de Wet, 2001) and adolescents (Fincham, Korthals Altes, Stein & Seedat, 2009) than overall levels of domestic violence, but these studies did not explore the contributions of specific forms of community and domestic violence to mental health outcomes. Such information would assist with prioritising prevention and intervention programmes in a context where resources are limited.

While traumatised children sometimes display symptoms of PTSD and other psychiatric disorders, they also commonly present with an array of other signs of traumatic stress that may vary according to their developmental level. Children between the ages of 0-2 years tend to portray primarily physical distress, such as sleeping or eating difficulties. Children between the ages of 3-6 years who have experienced a trauma may present with the loss of recently acquired developmental skills (such as the ability to feed or dress themselves), separation anxiety (manifested through clingy behaviour, fear of sleeping by themselves, or worry about something happening to their parents), the onset of new fears or the re-activation of old ones, and psychosomatic complaints such as stomach aches and headaches (Herbert, 1996; Yule, 1995). In children of primary school age, traumatic stress may manifest in sleep disturbances and somatic complaints, feelings of guilt and responsibility for the traumatic event, and repetitive play or re-telling of the traumatic experience. Traumatised children in this age group are also likely to display hyperactivity, distractibility and increased impulsivity, symptoms that may be mistakenly attributed to an attention-deficit or conduct disorder (Husain, Allwood & Bell, 2008; Weinstein, Staffelbach & Biaggio, 2000). These responses can interfere significantly with learning and place traumatised children on a trajectory towards school failure and drop out. A recent South African epidemiological study with adults found that trauma exposure and PTSD are associated with an increased risk of failing to complete secondary education (Myer et al., 2009). Youth who drop out of school are at increased risk of involvement in gang and criminal activity, and subsequently of further violence exposure, as well as perpetration. To date, South African research on the impact of trauma on children has tended to focus on psychiatric symptoms of PTSD, depression and anxiety, rather than other manifestations that may be characteristic of traumatic stress in early and middle childhood. Adolescents who have been exposed to trauma may
become withdrawn and non-communicative, or defiant, aggressive and display reckless behaviour patterns that place them at increased risk for the development of substance abuse, criminal activity, violence perpetration and further violence exposure (Jewkes et al., 2006; Pat-Horenczyk et al., 2007). In the international literature, aggressive behaviour amongst youth is consistently associated with a history of childhood physical abuse and less so with childhood sexual abuse, witnessing domestic violence and exposure to community violence (Margolin & Gordis, 2000). South African research has reported that direct exposure to trauma is associated with an increased risk of conduct problems among Grade 6 (Ward, Martin, Theron & Distiller, 2007) and Grade 7 (van der Merwe & Dawes, 2000) learners, but the forms of direct traumatisation that carry the highest risk have not yet been disaggregated.

To understand the relationship between violence exposure and violence perpetration amongst youth, the broader context of trauma exposure must also be considered: some authors have argued that in a context where the child or adolescent feels ashamed of their identity, as may be the case in historically oppressed and socio-economically marginalised communities in South Africa, the risk of rage and aggression increases (Garbarino, 1999; Seedat et al., 2009). Some American studies have suggested that youth who are chronically exposed to violence may develop a dissociation or disengagement response as a way of coping (Fitzpatrick, 1993; Hill, Levermore, Twait & Jones, 1996). Whilst being protective in some ways, this coping strategy may also result in long-term social and emotional maladjustment. It has further been proposed that experiences of chronic community violence combined with harsh parenting (thus, an absence of parental regulation of children’s fearful emotions) can lead to a “defeat reaction” in children, a long-lasting form of dissociation characterised by lowered blood pressure and heart rate (Perry & Pollard, 1998). A pattern of terminal thinking has also been observed in chronically traumatised youth, whereby they are unable to envision any long-term future and become resigned to the belief that a violent death is inevitable (Garbarino, 1999). Defeat reactions and terminal thinking may have a negative impact on children’s moral development, resulting in a lack of empathy and concern about the consequences of one’s actions towards others. This may increase the risk of engaging in violent behaviour or illegal activities.

Impact of trauma exposure on development
Children need to invest psychological resources in mastering normative developmental tasks. Experiences of trauma can interfere with the child’s negotiation of critical developmental transitions, as well as prevent the mastery of key developmental competencies (Pynoos, Steinberg & Goenjian, 1996). For example, exposure to family and community violence amongst pre-school children is associated with deficits in narrative coherence, a developmental competency that is necessary for reading, writing and communication skills (Osofsky, 1993). Trauma exposure may also delay, or inappropriately hasten, the development of independence and autonomy among young children and again in adolescence (Pynoos et al., 1996). There is also substantial evidence that children who have been exposed to violence and abuse have difficulties in their peer relationships, due to being overly sensitised to anger, hostility or threat (Margolin & Gordis, 2000). Anecdotal observations from service providers in violence-riddled communities in South Africa suggest that dissociation, disengagement and defeatism are common amongst children and adolescents. However, these responses have not yet been well-documented in local research studies. Some American (McCart et al., 2007; Turner et al., 2006) and South African (Suliman et al., 2009) studies have found that levels of psychiatric symptoms, such as PTSD and depression, increase with more exposure
to violent events, which appears to contradict the desensitisation hypothesis. More research on the impact of cumulative trauma is needed to better clarify these processes.

Children who grow up in situations of prolonged domestic abuse are particularly vulnerable to developing long-term psychological difficulties. Growing neurobiological evidence has demonstrated that when the emerging brain of the infant or young child is subjected to prolonged conditions of threat, the brain pathways that focus on identifying danger and developing survival or defence strategies are strengthened, while those that enable creative exploration of the environment, the development of secure relational attachments, and the capacity for emotional regulation or reflective self-awareness are compromised (Ford, 2009). Once laid down, these neural networks are difficult to alter, particularly in the absence of safe spaces or supportive relationships outside the home. Therefore the impact of childhood abuse often persists into adolescence and adulthood in complex forms that extend well beyond psychiatric symptoms of PTSD, depression and anxiety (Ford & Courtois, 2009). For example, it has been established in both international and South African research that adult perpetrators of intimate partner violence more frequently report having suffered direct abuse and witnessing domestic violence in their own childhoods than non-abusers (Gupta et al., 2008; Hotaling & Sugarman, 1986). Women who experienced child sexual abuse are at higher risk of being sexually victimised, and of experiencing intimate partner violence, in adulthood (Jewkes, Sikweyiya, Morrell & Dunkle, 2009; Koss & Dinero, 1989).

The developmental impact of childhood trauma exposure is thus both proximal and distal. Although some of the long-term consequences of early childhood trauma have been explored with adult samples, there has been little South African research that explores the developmental impact and consequences of exposure to trauma among children of different age groups.

**Risk and protective factors**

The relationship between trauma exposure and psychological or behavioural outcomes is not necessarily linear and appears to be moderated by a number of factors. These include factors that have been characterised as intrinsic to the child, as well as external systemic and contextual influences.

The PTSD literature has identified ‘intrinsic’ child characteristics such as an easy-going temperament, high intellectual ability, an internal locus of control (the belief that one can control one’s external events), trust and optimism as being associated with a reduced risk of developing PTSD after trauma exposure (Pat-Horenczyk, Rabinowitz, Rice & Tucker-Levin, 2009). However, these ‘intrinsic’ qualities are likely to be greatly shaped and influenced by the child’s family, educational and community milieu – living in a context of multiple adversities may place limitations on the development of these traits and abilities, and children who grow up in impoverished and disempowered communities may develop belief systems of helplessness and pessimism, which are associated with an increased risk of post-traumatic symptoms (Pat-Horenczyk et al., 2009). However, South African research has found that individual child characteristics of adaptability and frustration tolerance protect against the negative impact of violence amongst young children (Barbarin et al., 2001), while tolerance of negative feelings, perceptions of social support and feelings of self-efficacy reduce the risk of PTSD among trauma-exposed adolescents (Fincham et al., 2009).

The nature of the attachment relationship between child and parent, and the quality of family functioning, have consistently been found as the most important predictors of whether a child’s exposure to community violence will result in the
development of emotional or behavioural difficulties (Pat-Horenczyk et al., 2009). A secure attachment relationship and supportive parenting practices can protect children by helping them to regulate their emotional responses to violence outside the home and to develop appropriate coping strategies (Kiser & Black, 2005). However, families living in contexts of multiple adversity and chronically harsh, traumatic circumstances, as many South African families do, are vulnerable to gradual erosion in their capacity to offer a supportive environment to their children. For some families, experiences of adversity and trauma can enhance family cohesion and support, and prompt creative strategies for dealing with potential threats and stressors. However, research evidence suggests that for many families, environmental poverty and chronic trauma exposure increase the risk of punitive parenting styles and of child maltreatment (Krenichyn, Saegert & Evans, 2001), parental mental illness (Klebanov et al., 1994), as well as chaotic and unpredictable family roles and routines and frequent changes in family membership (Kiser & Black, 2005). These systemic factors may place trauma-exposed children at greater risk for developing emotional and behavioural problems. Furthermore, the positive impact that social support from friends and relatives can have on parenting practices appears to become eroded as neighbourhood poverty and crime increase (Ceballo & McLoyd, 2002). Additionally, parents living in communities where levels of violence are high are also frequently exposed to trauma. Parental trauma-related distress decreases parents’ capacity to create a climate of safety and security for their children and to emotionally contain their children’s fear and anxiety (American Academy of Child and Adolescent Psychiatry, 1998). Despite the demonstrated importance of family factors as predictors of the psychological adjustment of children exposed to trauma, few South African studies have examined this issue. The limited findings to date suggest that maternal coping (Barbarin et al., 2001) and family organisation (Shields, Nadasen & Pierce, 2008) may mitigate the adverse effects of violence in younger children, but that parent support may not be related to psychological outcomes in adolescents (Ward et al., 2007). However, further research is needed to better understand the role of the family system in the psychological adjustment of trauma-exposed children in South Africa.

Perceptions of a supportive school environment are associated with resilience amongst children who have been exposed to community violence in urban American communities (O’Donnell, Schwab-Stone & Muyeed, 2002), and, similarly, with a reduction in depression symptoms and conduct problems in South African adolescents (Ward et al., 2007). However, in poorly resourced school environments characterised by overcrowded classrooms and overburdened teachers, the quality of social support that can be offered to learners may be limited.

Finally, the role of peer group support in the psychological well-being of children in violent communities remains equivocal. While peers may provide an alternative source of support for children living in conflictual or violent families, it is also apparent that strong peer relationships can be associated with an increased risk of substance abuse and delinquency (O’Donnell et al., 2002). The protective or harmful influences of peer relationships for children living in high-violence contexts warrant further attention in South African research.

INTERVENTION APPROACHES
The prevention or reduction of the occurrence of violence and accidental trauma is the most important priority in attempting to address the high rates of trauma exposure among South African children and adolescents. However, at present, most violence preventative programmes in South Africa are offered by the non-governmental sector rather than by the state. Tertiary prevention, or mental health
services for children and families already affected by trauma and violence, is currently provided by an inadequately resourced state mental health service (Lund et al., 2009). Despite being in line with international standards for mental health service provision, existing policy guidelines have largely remained unimplemented at provincial level (Draper et al., 2009). Existing interventions are largely offered by over-burdened social workers with very high case loads. There is a paucity of psychologists and psychiatrists within the state mental health system (Lund et al., 2009) and the bulk of the population most beset by violence cannot afford private mental health services. The early detection and containment of traumatic responses in children that could be offered by schools is hampered by the dearth of school-based counsellors in the current education system, and children living in high violence, low-income communities are therefore likely to be referred for intervention only once symptoms are impacting severely on their functioning.

The under-funded and under-staffed mental health system is not the only obstacle to effective service provision for traumatised children. Similar to other countries, South African research data on the types and efficacy of interventions with traumatised children and adolescents is limited, making it difficult to offer clear intervention guidelines or to draw conclusions about the appropriateness of existing services. In 1999, William Yule, one of the key British theorists on childhood trauma, observed in an overview of PTSD in children and adolescents that “above all, the time has come to institute proper treatment studies with children” (Yule, Perrin & Smith, 1999, p.45), citing the lack of published “randomised, controlled studies” as a key problem. Ten years later, it seems that, while there have been advances in this regard, there remains a marked dearth of empirically based, quantitative studies into the efficacy of child interventions in the broad trauma field. A recent examination of the best practice guidelines of the International Society for Traumatic Stress Studies (ISTSS) reveals that in almost every category of intervention discussed, there is concern about the basis on which particular practices can be recommended, given the paucity of gold standard research into child and adolescent interventions (Foa, 2009). The one possible exception is trauma-focused cognitive behaviour therapy (TF-CBT), based on the fact that several international control-based studies have demonstrated efficacy in the use of this intervention method (Foa, 2009). However, all of these studies have been conducted on the fairly restricted population of sexually abused children and adolescents (Foa, 2009; Ruggerio, Morris & Scotti, 2001). Other than these studies it is generally the case that documented evidence for the treatment of childhood trauma consists of individual case studies and more subjective types of evaluations, such as reports on community projects.

While there is a paucity of scientifically sound international studies on child trauma treatment (Ruggerio et al., 2001), there is even less evidence available for South African interventions (Edwards, 2005). One of the few studies employing a control group design was also conducted on a population of sexually abused girls and involved the use of a structured, group-art therapy programme (Pretorius & Pfeifer, 2010). Reports of local interventions are predominantly case study-based (for example, Kekae-Moletsane, 2006; Leibowitz-Levy, 2005; McDermott, 2005) or of a report type nature in which anecdotal or observational accounts of improvement may be offered (Killian & Brakarsh, 2004).

Part of the difficulty of undertaking good quality research in this area lies in variation in the types of trauma that children and adolescents may have been exposed to, differences in developmental level, the role of contextual factors (such as parental traumatisation and loss) and limited availability of appropriate, standardised assessment tools.
Psycho-Social Effects of Trauma and Violence

Although it has been difficult to control these kinds of extraneous variables even in adult trauma intervention studies, it will be apparent that there are particularly salient problems in establishing the validity of interventions in the case of child populations. The prior discussion of trauma prevalence and impact illustrates just how complex it is to address childhood and adolescent traumatisation and the wide variety of factors that are implicated in child maladjustment and resilience. With this proviso in mind, it is useful to discuss the range of interventions that is generally available and employed in the treatment of traumatised children, both internationally and in South Africa.

While there is some overlap between the two types of trauma, there is generally some distinction between treatment directed towards dealing with a single traumatic event of either human or ‘natural origin’ (rape or severe burn accident), as well as treatment directed at dealing with the impact of multiple, continuous or complex forms of trauma (ongoing physical or sexual abuse). There is also some recognition that, in the latter forms of trauma, there may be a combination of negative environmental and traumatic factors that need to be simultaneously addressed in treatment, including when to administer treatment for a low-income family in which there is ongoing domestic and child-directed abuse, as well as parental substance abuse. Child trauma treatment may also be offered in different modalities, including individual psychotherapy, group psychotherapy, caregiver-child counselling, family systems interventions, and school based programmes (Foa, 2009; Friedman, 2003; Leibowitz-Levy, 2005).

Most of the treatment approaches used with children and adolescents, other than play therapy, are based on modifications to interventions used with adults. In the case of acute traumatic events there are a range of recognised short-term interventions. Various debriefing protocols may be employed, as well as trauma support (including psycho-education and psychological first aid or PFA [Brymer et al., 2006]) and eye movement desensitisation and reprocessing (EMDR). In many instances parents or caregivers may be counselled simultaneously, usually involving psycho-education to assist them to anticipate signs of distress in their child/ren and to manage the impact meaningfully (Foa, 2009; Leibowitz, Mendelsohn & Michelson, 1999). Where groups of children have been affected in the same geographical and scholastic context, school-based debriefing interventions may be offered with a view to minimising fall-out from the traumatic event and identifying children who may be particularly at risk for the development of subsequent debilitating pathology. Despite some of the concerns about the efficacy and role of debriefing interventions (Bisson, 2003; Bisson & Cohen, 2006; Rose, Bisson & Wessely, 2003), adults feel a sense of responsibility in attempting to assist children to deal with difficult traumatic experiences. Given that adult mediation of anxiety evoking experiences is fundamental to optimal child development (Levy & Lemma, 2004), it is important that significant caregivers engage with children who have experienced traumatising events (Papaikonomou & Niewoudt, 2004). While it is unclear which components of an intervention may be most helpful, it would seem that in the initial aftermath of a trauma, supportive rather than deeply exploratory approaches are preferable (Bisson & Cohen, 2006; Stallard et al., 2006).

Beyond the initial containment of acute trauma treatment, there are a range of interventions that may be used to address the long-term consequences of single, and less complex, traumatic exposure (Cohen, Berliner & March, 2000). The dominant individual approaches employed in these instances are trauma-focused CBT and trauma-focused play therapy (Leibowitz-Levy, 2005). Play therapy is commonly used with early and middle childhood
aged children, employing drawing, creative activities and playing with objects representing the trauma, which are then responded to and interpreted by the therapist. One of the most widely-cited, brief-term approaches is “the child interview”, developed by Pynoos and Eth (1986) for child witnesses or victims of violent incidents. Although designed as a brief-term model for early intervention, it can be used to assist children to work through single event traumas more generally. The model facilitates the processing of trauma, by using common principles to guide such interventions aimed at children. It helps them to face and process the event, gain insight into what took place, as well as regain their sense of control, trust and hope. In a small survey conducted amongst several key trauma treatment providers in South Africa, Leibowitz-Levy (2005) established that most practitioners used “the child interview” to inform their interventions, sometimes complemented by the Wits Trauma Model (Eagle, 2000), which is a five-stage brief-term intervention model developed for adult survivors of trauma in the South African context, informed by caregiver counselling or psycho-education. However, as discussed previously, the efficacy of such interventions could only be described anecdotally based on clinical judgements. Leibowitz-Levy (2005) proposes a modified trauma intervention model for the South African context, highlighting the art therapy or expressive component of the Pynoos and Eth (1986) model and adding a more narrative component in which the “ongoing self” or “self in context” of the child is emphasised in the therapy. McDermott (2005) makes the case for a greater indigenisation of approach in her child therapy case study, arguing that cultural symbolism and practices should be appreciated and incorporated into South African child trauma treatment, with respect to certain populations. Kekae-Moletsane (2008) makes a similar argument about the usefulness of employing “traditional play”, based on her treatment of a traumatically bereaved boy. To reiterate, however, these kinds of proposals, though theoretically and clinically credible, have no proven scientific base and require systematic evaluation. It is apparent across the child trauma treatment literature, and more particularly in the limited South African literature on the topic, that flexible, eclectic and multidimensional approaches are often favoured (Foa, 2009; Kriegler, 2004; Leibowitz-Levy, 2005; Nader, 2001; Parson, 1997). It is also worth noting that there is room for pharmacological interventions with individual children (Seedat et al., 2002), although this should be prescribed with great caution, since the evidence base is still very limited (Foa, 2009).

Trauma-focused CBT approaches tend to share common components, including repeated exposure to traumatic memories and reminders until the anxiety and fear associated with these are reduced, cognitive processing and reframing of trauma-related beliefs about oneself, others and the world, stress management and parental treatment (Cohen, Mannarino, Berliner & Deblinger, 2000). However, while there is evidence that the approach as a whole is beneficial, “there are inadequate data to indicate the relative contribution of the individual CBT components” (Cohen et al., 2000, p. 1202). There do not appear to be any South African studies that have systematically examined the use of trauma-focused CBT with child or adolescent populations. Instead, it seems that, while practitioners are aware of the benefits of components of CBT interventions, they work in an eclectic rather than a protocol-based manner, combining a range of therapeutic modalities, including aspects of CBT, in a composite intervention. This may be appropriate to meet the complex and unique needs of individual trauma survivors, but renders it more difficult to conduct rigorous efficacy studies.

A third type of trauma-focused intervention is that involving group psychotherapy (DeRosa et al., 2003; Friedman, 2003; Goenjian, Karavan & Pynoos, 1997;
Killian & Brakarsh, 2004; Pretorius & Pfeifer, 2010) and/or school-based interventions (Foa, 2009). These interventions are generally designed to provide containment, as well as identify at-risk children, respectively. They can, therefore, serve secondary treatment and primary prevention functions. School programmes may be implemented specifically in the wake of a traumatic incident (for example, Goenjian et al., 1997) or may form part of a general life-skills curriculum in which, for example, dealing with unanticipated bereavement or unwanted sexual advances may be addressed. The latter types of interventions fall out of the ambit of clinical evaluation studies, however. Once again, although both trauma intervention and preventative psycho-educational programmes have been implemented in South African schools, there do not appear to be any reliable outcome studies substantiating the efficacy of such interventions.

Given the context of poly-victimisation in which many South African children grow up, interventions designed to tackle multiple and complex forms of traumatisation are crucial. In such contexts it is generally recognised that a two-pronged approach is required, one aspect dealing with processing the immediate stress experience/s and the other attempting to create some buffer against future such stressors, considering “both the child and the context as targets of intervention” (Cook, Blaustein, Spinazzola & van der Kolk, 2003, p. 26). To address the impact of community violence among children from inner-city areas in America, Parson (1996, 1997) advocates the use of post-traumatic child therapy (P-TCT), which takes account not only of traumatic stress and related symptoms but also of the kinds of defensive processes that individuals have to develop to endure ongoing adversity. P-TCT encompasses a multi-systemic set of interventions, including working with the child self-system, the family or extended familial system, the child-therapist system, and the broader social, cultural and political system. While Parson (1996, 1997) provides a detailed description of what each phase of treatment involves, thus allowing for replication of his approach – he also illustrates the use of the model through an empirical case study (1997) - there is a lack of sound evidence concerning the efficacy of P-TCT.

Also recognising the need to formulate impact and intervention differently in the case of child populations who face multiple trauma and other adversities, the National Child Trauma Stress Network (NCTSN) in the United States of America set up a Complex Trauma Task Force that produced a comprehensive report on the issue, including approaches to treatment. Combining both clinical and community-based intervention approaches, the report argues that four central goals need to be achieved: “(1) safety in one’s environment, including home, school and community; (2) skills development in emotion regulation and interpersonal functioning; (3) meaning-making about past traumatic events they have experienced so that youth can consider more positive, adaptive views about themselves in the present, and experience hope about the future; and (4) enhancing resilience and integration into social networks (Cook et al., 2003, p.23)”. The second goal may be achieved through the use of a milieu, community-based approach focusing on building secure attachments, enhancing self regulatory capacities and increasing competencies (ARC) (Cook et al., 2003). It is suggested that intervention should be developmentally attuned and phase-based, each successive phase building on the gains of the previous intervention component. The US NCTSN task force report provides a comprehensive explication of the varied kinds of difficulties that need to be tackled in the case of complex traumatisation and advocates a multi-level, multi-interventionist approach. The report also provides some positive data on the efficacy of the ARC approach, such as improved concentration and less aggressive outbursts (Cook et al., 2003). In South Africa, while there is widespread
appreciation of the complexity of interventions in communities affected by violence, research into community-based trauma interventions is still in its infancy. As with individual treatment, most of the existing reports of interventions are case study-based and employ subjective tools to evaluate efficacy. Researchers and interventionists would be well-served by systematically following some of the NCTSN principles to guide their practice, although it is important to take account of resource constraints and contextual particularities.

In summary, while there is quite a large body of evidence describing and documenting intervention approaches for both simple and complex forms of traumatisation in children and adolescents internationally and locally, there is a marked lack of strong evidence-based studies. Current practice in South Africa appears to be based on the adoption of a rather eclectic approach, relying on modifications to documented models of treatment for both adults and children and on clinician-led innovations, creating difficulties for conducting outcome-based research. There remains a strong need for good empirical studies in the area.

Summary of key legislation

1) Legislation governing protection of children from violence, abuse and exploitation:
   - The Bill of Rights in the South African Constitution states that everyone has the right to freedom and security of person, which includes the right “to be free from all forms of violence from either public or private sources” [Section 12(1)(c)] and “not to be treated or punished in a cruel, inhuman or degrading way” [Section 12(1)(e)], and that every child has the right “to be protected from maltreatment, neglect, abuse or degradation” [Section 28(1)(d)].
   - South Africa has ratified the United Nations Convention on the Rights of the Child (CRC), which states that “State Parties shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse” [Article 19(1)].

2) Legislation governing social and health service provision for children:
   - The Bill of Rights states that every child has the right “to basic health care services and social services” [Section 28(1)(c)].
   - The Convention on the Rights of the Child states that “protective measures should, as appropriate, include effective procedures for the establishment of social programmes to provide necessary support for the child and for those who have the care of the child, as well as other forms of prevention and for identification, reporting, referral, investigation, treatment and follow-up of instances of child maltreatment” [Article 19(2)] and that “State Parties shall take all appropriate measures to promote physical and psychological recovery and social reintegration of a child victim of: any form of neglect, exploitation, or abuse....Such recovery should take place in an environment which fosters the health, self-respect and dignity of the child” (Article 39).
   - The Children’s Act has replaced the old Child Care Act, and aims to bring South African law in line with the Bill of Rights and international laws and conventions such as the CRC. It commits to providing primary prevention and early intervention programmes for vulnerable children, in addition to protective services for those who have experienced abuse, neglect or exploitation. The Children’s Institute at the University of Cape Town argues that these policy shifts have not yet been translated into practice due to a number of factors, including absence of qualified social service practitioners, the prioritising of statutory protection services or alternative care over preventive and early identification services, and poor inter-departmental collaboration (Giese, 2008). It also notes a “worrying tendency to use the justice system to deal with children manifesting social problems” (Jamieson, Proudlock & Warehouse, 2008, p. 14) that is inappropriate in the absence of adequate preventative and rehabilitative services.
CONCLUSION
Despite South African legislation protecting children’s rights (see the Box on the previous page), many children continue to experience multiple forms of victimisation, while existing mental health and social services remain inadequate to meet the needs of the youngest members of the South African society. As these children grow up to become adults in their communities, the consequences of untreated trauma are likely to be passed on to the next generation of South African children. A more focused and prioritised prevention and intervention strategy is therefore urgently required, which needs to be informed by robust research.

While we have some research data on the impact of violence and trauma on children and adolescents, it is apparent that there is a need for a great deal more, and better designed, research. Developmental aspects of childhood traumatisation require more careful understanding, as do the context specific contributions to risk and resilience. For example, cultural attributions about damage and risk may play a role in child and family adaptations to traumatic events. The identification of children and families who are most at risk of developing trauma-related difficulties is crucial in a context of limited prevention and intervention resources. There is also a striking need for more systematic documentation of, and research into, intervention approaches employed by South African practitioners working with traumatised children. At present, while there may be some merit in allowing for creativity and innovation, there is also considerable space for clumsy or inadequately informed interventions. Practitioners need to be able to defend their interventions by grounding these in sound theory and more rigorous research, even if resource constraints prevent the attainment of what might be considered gold standard research internationally. It is also important to document the necessary modifications to international frameworks or models of impact and intervention, in order for a more indigenised shared body of knowledge to be generated and validated. There is room for both qualitative and quantitative research in achieving...
this goal, and the former would be valuable in supplementing existing broad-based survey data.

The prevention or reduction of domestic, school and community violence, and of accidental childhood injuries, is an important long-term goal in decreasing mental health risks for children and adolescents in South Africa. However, for the many children who already have been, and continue to be, exposed to trauma and violence, ameliorative interventions that are informed by systematic data collection are also vital. In our context of poly-victimisation and complex traumatisation, the understanding of the psycho-social impact and associated interventions needs to extend beyond the scope of existing conceptualisations of trauma to incorporate concerns about cognitive capacities, the quality of emotional attachments and social bonds, and the regulation of emotion. Theory in this area is becoming increasingly sophisticated and there is a much greater appreciation of how these kinds of more pervasive developmental impacts may be implicated in fuelling a cycle of violence and deprivation.

Too many children and adolescents in South Africa are living in conditions of chronic trauma, with little access to ameliorative interventions. There is a danger of fairly extensive intergenerational transmission of trauma, with growing societal costs. Intervention would require dedicated and informed resources with an emphasis on prevention and early identification, wherever possible. There is a need for greater coordination and complementarities between state, NGO and community-based sectors in addressing child and youth victimisation. It must be recognised that investment in both programmatic and more clinical interventions is worthwhile, not only because of the statutory and moral imperatives to assist such children, but also in order to build a healthy, happy and stable future population.

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