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Applying upstream interventions for interpersonal violence prevention: An uphill struggle in low- to middle-income contexts

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ABSTRACT

In South Africa's Western Cape province, interpersonal violence was identified among the key prevention priorities in the provincial government's Burden of Disease (BoD) Reduction project. To date, there are no adequate systematic reviews of the full range of potential intervention strategies. In response, available data and the literature on risk factors and prevention strategies for interpersonal violence were reviewed with a view to providing policy makers with an inventory of interventions for application. Given the predominance of upstream factors in driving the province's rates of interpersonal violence, efforts to address its burden require an intersectoral approach. Achievable short-term targets are also required to offset the long-term nature of the strategies most likely to affect fundamental shifts. Documentation and evaluation will be important to drive long-term investment, ensure effectiveness and enable replication of successful programmes and should be considered imperative by interpersonal violence prevention policymakers in other low- to middle-income contexts.

1. Background

Violence claims an estimated 1.6 million lives worldwide annually and 90% of these deaths occur in low- to middle-income countries [1]. However, this only reflects a fraction of the overall impact of violence on global health and development [2]. South Africa's rates of fatal violence are five and eight times higher than the global average for females and males, respectively [3]. Official police statistics estimate that there were 40% fewer homicides, but comparable data from other countries support the notion that South Africa has one of the world's highest homicide rates [4]. The burden of violence is considerably higher when other negative health sequelae in addition to physical injuries are considered [5].

In the Western Cape province of South Africa, violence accounted for 12.9% of premature mortality and was the second leading cause of years of life lost (YLLs) after HIV/AIDS, which accounted for 14.1% of YLLs in 2000. Western Cape mortality rates were higher than national rates for males per hundred thousand (129 vs. 115), and females (25 vs. 21) [6]. Consequently, the prevention of violence in the province was identified as a public health priority and included among the provincial health department's five focus areas for prevention in their Burden of Disease (BoD) Reduction project [7].

Violence was defined 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" [8]. Accordingly, available provincial data and

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literature on related risks and interventions formed the bulk of the reviewed data. The National Injury Mortality Surveillance System (NIMSS) provided information on all injury-related deaths in the City of Cape Town, the province's single metropolitan area of more than three million inhabitants, almost two-thirds of the provincial population [9]. The published reports of the Crime, Information and Analysis Centre of the South African Police Services also informed the aggregate data pool for analysis.

Risks were conceptualised as biological, behavioural, societal and structural. This followed an ecological model that differed slightly from the one described in the *World report on violence and health* [10], but which was consistent with the approach used by the BoD project's four other focus areas for prevention. Even so, the models were interchangeable as the *World report*'s risks at the individual level include the biological and behavioural risks of the BoD model. The *World report*'s relationship risks form the proximal societal risks of the BoD model, and its community risks reflect the BoD's distal societal level, whereas the *World report*'s societal risks are interchangeable with the BoD's structural risks. This model was also congruent with the health promotion approach outlined in the Ottawa Charter that shifts the responsibility of health from the individual to the creation of an enabling environment that supports healthy behaviour [11]. The BoD project prioritised upstream risk factors and interventions, which refer to more distal societal and structural levels further up the causal chain that typically fall within sectors other than health, such as employment, poverty and income inequality, and access to housing, education and other public infrastructure. This was consonant with emerging recommendations from the Commission on the Social Determinants of Health [12].

2. Risk factors for violence

2.1. Biological risk factors

Young males are more likely to be perpetrators and victims of violence worldwide. In the Western Cape province, males were disproportionately affected by fatal violence and in 2000 there were 5.2 male deaths due to interpersonal violence for every female death [6]. This ratio was marginally higher than the average in other provinces, but 60% higher than the world average of 3.2 male deaths for every female death [13]. In South Africa, males also account for a greater proportion of non-fatal injury cases presenting to health facilities, although the male to female ratio is not as pronounced as for fatalities [14,15], as women are more frequently the targets of other types of violence, such as sexual assaults and domestic abuse that represent a larger proportion of non-fatal outcomes.

The gender distribution of fatal violence in South Africa varies by age. In Cape Town, fatal interpersonal violence for males and females increases sharply from the age of 15 years, peaking in the 25–29-year age category for males and the 35–39-year age category for females [16]. Women 60 years and above are disproportionately represented, but women who are murdered by intimate partners are younger (mean age 30.4 years) than those murdered by others (41.2 years) [17]. For younger children, fatal violence is evenly distributed by sex [3]. For non-fatal injuries boys are more frequently victims of physical abuse and girls of sexual abuse, which not only results in physical injuries but also has long-term psychological consequences. Data from Cape Town's Red Cross Children's Hospital in 2000 revealed that although girls comprised only 37% of non-fatal trauma cases, nearly half (48%) had suffered sexual abuse. Only 3% of boys presenting to the facility had been assaulted sexually [18]. In general, children are disproportionately affected by sexual violence. In 2004 police statistics reported that children younger than 18 years constituted 41% and 47% of South Africa's rape and indecent assault victims respectively [19], although the high likelihood of under-reporting suggests that the true magnitude of child sexual abuse may be considerably higher [20,21].

Mental and physical impairment also constitute important biological risk factors that may increase the risk of being a victim of violence or, in some cases, predispose individuals to violent or aggressive behaviour. For example, an *abnormal heart rate* can act as either a risk or protective factor. For youths a low heart rate is associated with sensation-seeking and risk-taking behaviour [22] and among younger children high heart rates are associated with anxiety, fear and inhibition [23], which are believed to be protective factors against aggressive or violent behaviour [24]. *Neurological damage* that results in psychological or personality disorders predisposing individuals to violent or aggressive behaviour can also be the result of biological factors.

Biological studies have also shown that abuse and neglect in childhood affects brain development and negatively influences cognitive, psychological and social adjustment increasing the risk for violent and anti-social behaviour [25]. Nevertheless not all children exposed to adverse traumatic experiences become violent. A range of factors, including the presence of the MAOA genotype, other social support and IQ, serve to moderate the effects of maltreatment, and may provide protection [26].

2.2. Behavioural factors

Problems such as hyperactivity, impulsiveness, misconduct, and attention problems experienced in early childhood are important examples of psychological and behavioural factors that may predispose youths and young adults to display violent and aggressive behaviour. There is also evidence that diet and exposure to lead may affect aggressiveness and risk-taking behaviour [27–29].

Although alcohol and substance abuse cut across various ecological levels as risk factors, they impact primarily at the behavioural level. Three meta-analyses of the association between alcohol use and violence cited by Parry and Dewing [30] found that between 27% and 47% of intentional injuries were related to the use of alcohol. The role of alcohol is three-fold. First, as alcohol lowers inhibition, it is an important situational factor in precipitating aggressive behaviour and violence. Several studies have found a link between alcohol dependence and child abuse [31,32] and intimate-partner violence across different settings [33,34], although causality is still being debated [35].

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Second, due to alcohol's effect of lowering motor-coordination and cognitive perception, intoxicated people are more likely to become victims of violence. In the Western Cape in 1999, 62% of murdered women had elevated blood alcohol concentrations at the time of death with an overall median of 0.11 g/100 ml [36]. In the context of intimate-partner violence it may not necessarily be the perpetrator's drinking, but the ensuing conflict that results in violence. Alcohol thus has a disinhibiting effect which can fuel violent conflicts [37]. There is also evidence to suggest that men may drink to embolden them to be violent towards an intimate partner if this is socially expected [38].

Third, both victims and perpetrators have an increased likelihood of using alcohol as a coping mechanism, as shown in co-morbidity studies comparing alcohol dependence and abuse with a range of psychiatric disorders, most notably post-traumatic stress disorder (PTSD and depression [39,40]. This compounds the mental-health burden imposed on already-traumatised communities. Among South Africa's three major cities the alcohol-relatedness of homicides was significantly higher in the Western Cape's largest city, Cape Town, than in Johannesburg and Durban [41].

As drug testing is not performed routinely during post-mortem investigations, information on the use of other substances of abuse in relation to violence is more difficult to obtain. Nevertheless, one local study showed self-reported cannabis use at between 22% and 28% of arrestees who committed violent offences [42] and another conducted among arrestees for violent crimes across eight police stations in Cape Town, Durban and Johannesburg confirmed a high prevalence of drug usage amongst the alleged perpetrators, with nearly half (45%) testing positive for illicit drugs by urinalysis [43]. Arrestees in Cape Town tested positive for Mandrax, which may be attributed to gang activities in the city [44]. More recently, the use of and trafficking in crystal methamphetamine or 'tik' as it is known in Cape Town has been implicated in heightened gang violence [45].

2.3. Proximal societal factors

During childhood, family-related factors are influential in fomenting the later onset of violent and aggressive behaviour, whereas peer relationships are more important during adolescence [46]. The risk factors at the family level for a child's development of aggressive or violent behaviour include a family having a large number of children, a mother having a child at a young age, a low level of family cohesion, single parent households, and low socioeconomic status, abusive parental behaviour including harsh physical punishment and parental conflict [24,47–51]. Some South African studies have shown strong linkages between the risk of intimate-partner violence and child abuse [47,52,53]. Abrahams et al. [38] found that 23.5% of men from three municipalities in the Western Cape witnessed abuse of their mothers. This was found to be associated with later use of intimate-partner violence (with an odds ratio of 2.61; 95% CI = 1.94, 3.54), and other forms of violence, i.e., involvement in conflicts in the community and at their workplace and arrest for possession of an illegal firearm.

The risk factors outside the family for violence among adolescents and young people usually relate to having violent friends. This may influence the likelihood of a young person engaging in violence [54], as well as increasing the risk of engaging in other delinquent and criminally violent behaviours, such as alcohol and substance abuse and rape [55]. Activities relating to gangs, guns, and drugs tend to drive increases in the rate of violence within neighbourhoods and the psychological imprint of these experiences expose children to a range of severe negative mental-health outcomes [56]. In the Western Cape, these factors are pronounced. While recent national figures indicate that that there are currently 3.7 million guns in personal hands [57], the Western Cape is also beset with a strong history of street crime and gangs, which comprise an estimated 90,000 members in the province [58]. The Medical Research Council's Youth Risk Behaviour Study revealed that in the Western Cape approximately 38% of male learners and 8% of female learners had carried a weapon in the past 6 months [59].

Another important contributor to rates of violence is social integration within the community [60]. Reduced social capital (which refers to the protective effects of social networks), manifesting in low social cohesion and interpersonal mistrust, has been linked with an increase in higher violence rates and economic inequality [61], and conversely, Earls [62] found a strong relationship between high levels of civic engagement and low levels of crime. These factors may be involved in the high levels of community violence in South Africa and the Western Cape; reported rape cases ranged from 197 to 210 per 100,000 population in South Africa from 1996 to 1998 compared to 80 per 100,000 in the United States [21]. Another study in Cape Town reported that 32% of pregnant adolescents and 18% of matched controls had been forced into their first sexual experience [63]. In Cape Town, high-school dropouts were significantly more likely to engage in a range of risk-taking behaviours, including violence [64,65].

2.4. Distal societal factors

Socio-cultural factors such as traditional gender and social norms supportive of violence are associated with a man's risk for abusing his partner [66]. Cross-cultural studies indicate that intimate-partner violence is more likely in societies where violence has become an everyday occurrence, such as may be found in conflict areas [67–69]. Socio-cultural inequality has also been implicated in risks for violence [54]. The Western Cape's Gini index of 61.6 [70] is higher than the national average of 57.8 [71], highlighting the need to consider income inequality as a distal driver of violence in the province. There are also marked differences between Cape Town sub-districts in terms of other measures of inequality such as the aggregate education level, the percentage of informal dwellings and access to public infrastructure such as piped water and electricity [72,73].

The effectiveness of political structures in applying social protection and crime and violence prevention strate-

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gies is also an important factor in determining rates of violence. In an investigation of 45 high- and middle- to low-income countries between 1965 and 1995, Fajnzylber et al. [74] found that arrest rates for murders had a significant effect in reducing violence. The state can also provide institutions for social protection and make substantial investment in welfare. Both of these strategies seem to affect a reduction in rates of violence [75,76]. The Domestic Violence Act, The Criminal Law (Sexual Offences) Amendment Bill and The Child Justice Bill reflect the South African State's alignment to these strategies, however South African studies on the effectiveness of the Domestic Violence Act of 1998 have shown that legislation in itself is insufficient to change the experiences of women, who still experience the police as ineffective and ill-equipped to respond effectively and sympathetically to intimate violence. In addition, the legislation does not address the key requirement of many women, which is not that their partners be imprisoned but rather that their violent behaviour ends [77,78].

2.5. Structural factors

Major social changes and demographic shifts resulting from migration, urbanisation or modernisation have been linked with increased rates of violence among youth [24]. The relationship between socioeconomic status and violence has been shown to exist in many high-income countries [79,80] and violence is more concentrated in areas of poverty and deprivation [54] and has been shown to increase along with income inequality and poverty [74,81]. In Cape Town the highest rates of homicide were recorded in the relatively impoverished sub-districts of Nyanga (132 per 100,000 population) and Khayelitsha (120 per 100,000 population) double the citywide average of 66 per 100,000 and three times the rate recorded in the city centre (42 per 100,000) [82]. It is likely that these discrepancies would have been more pronounced had small area data been available to disaggregate slum areas from more established residential areas.

Migration and urbanisation are key factors in driving high rates of violent crime [83,84] and in the Western Cape the substantial variation in the provincial injury profiles is partly explained by these variables. In the last two decades internal and cross-border migration has been the catalyst for South Africa's rapid urbanisation and dramatic expansion in the size of sub-economic and informal housing settlements on the urban periphery. First, large-scale internal migration from rural to urban areas from the late 1980s coincided with the relaxation of the apartheid-era Group Areas and Influx Control legislation. More recently, cross-border migration has increased with migrants displaced by civil unrest and economic instability in countries to the North of South Africa. This has placed a considerable burden on already stressed social infrastructure and services, particularly in the peri-urban communities that were the primary sites for the xenophobic violence that afflicted the country in May 2008 [85]. Between 2001 and 2006, the Western Cape experienced 100% net migration, the highest of all South Africa's nine provinces. This trend is projected to continue into 2011 [9].

Provinces with more urban-based populations have higher injury rates and it is understandable that the 20 police stations reporting the most murders comprised a mixture of inner city and township stations with most also being in and around Johannesburg, Cape Town and Durban [86]. The Medical Research Council's provincial estimates of mortality in 2000 also indicated a higher concentration of fatal violence in cities, with the Western Cape province and Gauteng – the two most developed provinces – reporting the highest rates of fatal violence [6].

3. Proven and promising interventions

Having provided a brief profile of the Western Cape's risk factors for violence across the ecological model, we draw on internationally reviewed, proven and promising interventions as they relate to these data, in order to provide the range of intervention possibilities that might be considered to address the burden of violence in the Western Cape province and other similar contexts.

Butchart et al. [54] maintain that violence prevention requires comprehensive intervention strategies involving all sectors of society to address core sets of underlying causes and risk factors, including Government, NGOs and civil society, as well as the general public and the private sector. In their guide to implementing the recommendations of the *World report on violence and health,* Butchart et al. [54] highlight several key strategies for promoting primary prevention. These are investing in the early development stages of childhood, which shows greater promise than programmes directed at adults; increasing positive adult involvement in the monitoring and supervision of children and adolescents; strengthening communities, for example through reducing the availability of alcohol or improving childcare facilities; changing cultural norms in order to promote such positive norms as equality for women or respect for the elderly, and to challenge negative norms associating violent behaviour with masculinity, or racism, classism, and sexism; reducing income inequality; and improving the efficiency and resource base of the criminal justice and social welfare systems.

Our review of potential interventions (Table 1) represents a synthesis of three international reviews identified in the literature [1,54,87], with the most recent source taking precedence where there was lack of consensus as to the strength of evidence. Effective interventions were defined as those that had been evaluated with well-designed studies with evidence of a significant preventive effect; evidence of a sustained effect; and that had been successfully replicated across different settings. Promising interventions were those with some evidence of effectiveness that they had been evaluated with well-designed studies, but that still required further evaluation.

There were two key observations from the tabulation of effective and promising interventions (Table 1) that have relevance for the implementation of a comprehensive and integrated approach to violence prevention in the Western Cape. First, the small number of effective interventions relates to the difficulty in measuring actual reductions in physical violence. Pinpointing the drivers of these changes is complicated by the fact that they may result from a

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Table 1
Promising and effective interventions for violence prevention.

Possible violence interventions	Target of intervention
Reducing income inequality	
• Job-creation programmes for the chronically unemployed for ages 20 and older	Distal
• Poverty reduction	
• Housing density and residential mobility programmes	
• Micro-finance projects for women	
• Improved police and judicial systems to ensure more equitable access, protection, and legal recourse for victims, witnesses and suspects, and more efficient investigation and judicial procedures	
Improving the criminal justice and social welfare systems	
• Easier access to social support for women and families	Distal
• Further legislation to criminalise the maltreatment of children, intimate-partner violence, and elder abuse	
• Mandatory arrest for intimate-partner violence	
• Improve services for children who witness violence;	
• Safe havens for children on high-risk routes to and from school	
• Shelters and crisis centres for battered women and elder abuse victims	
• Treatment programmes for victims of maltreatment for children aged 0 to 3 years	Proximal
• Services for adults who were abused as children for ages 20 and older	
• Treatment for child and intimate-partner abuse offenders for ages 20 and older	
• Screening by healthcare providers for the identification and referral of high-risk youth, battered women, victims of elder abuse, child maltreatment, and sexual violence	
Changing cultural norms	
• Mobilise women's community networks to challenge prevailing aggressive norms and beliefs to reduce tolerance of violence, and to teach perpetrators to fear the consequences of their actions	Distal
• Work with young men to change their attitudes and behaviour with regard to gender-based violence and violence in general	
• Campaigns to increase public awareness of child maltreatment	
• "Name and shame" intimate-partner violence offenders	
• Adult recreational programmes	
• Community policing	
• Reduce the glorification of violence in popular media, including television, film and computer games	
• Public information campaigns to promote pro-social norms for children aged 9–11 years	
• Change cultural norms that support violence, such as those that support male dominance over females; parental dominance over children; and violence as a means of conflict resolution	
• Encourage and expand life-skills training programmes	Proximal
• Reduce unintended pregnancies (aimed at preventing violence against children aged 0–3 years)	
• Recreational programmes for children aged 3–19 years	
• Peer mediation or peer counselling for children aged 12–19 years	
Strengthening communities	
Alcohol	
• Implement a coherent liquor-outlet policy which brings informal outlets into the regulated market	Distal
• Community mobilisation against alcohol misuse	
• Norms/guidelines for school-based programmes based on best practice	
• Product restrictions, e.g., on size of packaging and clearer, legible labels regarding content	
• Restrict products that appeal to youth	
• Reduce alcohol availability for ages 12–19 years	
• Establish integrated programmes that address alcohol and substance abuse alongside other violence prevention initiatives	
• Pilot and implement brief interventions for high-risk and hazardous drinkers	Proximal
Education and childcare	
• Programmes which provide youths with incentives to complete secondary schooling;	Distal
• School-based prevention programmes aimed at reducing date-related violence	
• Introduce child-protection service programmes	
• Improve school settings for children	
• Install metal detectors in schools for children aged 3–19 years	
• Introduce social development programmes for children between the ages of 3 and 19 years	Proximal
• Encourage academic enrichment programmes for children aged 12–19 years	
• Introduce temporary foster-care programmes for chronic delinquents for children aged 12–19 years	
Firearms	
• Enforce longer waiting periods for firearm purchases	Distal
• Hold gun-owners liable for damage caused by gunfire	
• Promote the safe storage of firearms and other lethal weapons	
• Enforce laws which prohibit the illegal transfers of guns to youth	
Investing in early childhood education	
• Lead monitoring and toxin removal	Distal
• Increased access to pre- and post-natal care for children aged 0–3 years	
• Multi-context, long-term interventions that impact on multiple dimensions of a child's environment	
• School-feeding schemes to ensure adequate nutrition in all grades throughout the schooling years	
• Introduce therapeutic foster care for children aged 0–3 years	

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Table 1 (*Continued*)

Possible violence interventions	Target of intervention
• Implement preschool enrichment programmes for children aged 3–11 years • Introduce home visitation aimed at reducing violence directed at children aged 0–3 years • Provide training for young parents aimed at reducing violence among children aged 0–5 years • Hospital-based, parent education programme to reduce the incidence of abusive head injuries among infants and children • Provide mentoring for children aged 3–11 years • Implement school-based child-maltreatment prevention programmes for children aged 3–11 years	Proximal
Increasing positive adult involvement • Incentives for young adults and high-risk youths to complete high-school and post-secondary education or vocational training • Provide mentoring for children aged 12–19 years • Provide family mentoring for families with children aged 12–19 years	Distal
• Introduce home-school partnership programmes to promote parental involvement for children aged 3–11 years • Provide after-school programmes to extend adult supervision for children such as wilderness programmes and other outdoor programmes for youth at risk	Proximal

complex web of factors that influence individuals and relationships over a long period of time. Consequently, evaluations of violence prevention programmes internationally have frequently assessed effectiveness using proxies such as changing knowledge and attitudes rather than direct measurements of change in the incidence of injuries, which would constitute a more significant indicator [87].

Second, effective programmes that are more amenable to evaluation are typically concentrated at a more downstream, or proximal, rather than an upstream or distal level of intervention. Seemingly paradoxically, upstream interventions targeting patterns of inequity in respect of social determinants such as income levels, the provision of housing, infrastructure, educational levels, employment, and health expenditure can be expected to have greater promise yet are less amenable to evaluation, as it is difficult to attribute observed changes in violence rates to upstream interventions directly. Consequently there is a bias in the scientific literature towards a downstream programmatic focus, which avoids the difficulty of analysing numerous interacting determinants of effectiveness. There are, however, numerous examples of more upstream interventions which have been reviewed as promising and have relevance for the Western Cape, and the enormity of the problem begs for a serious consideration of their merits.

Developing the technological infrastructure and human resource capacity required to scientifically assess the effectiveness of upstream interventions should attract national and local government funding, as well as international donor aid, which has until recently been allocated piecemeal to priorities aligned with Millennium Development Goals rather than violence prevention more broadly [88,89]. The institutionalisation of reliable injury surveillance and scientific research should be an integral part of any large scale prevention strategy, as was the case in Bogota, Colombia, where, as in the Western Cape, high homicide rates were mainly firearm-related. The significant decline in homicide rates in Bogota between 1994 and 2004 (82–28 deaths per 100,000 population) has been directly attributed to the programme's institutionalisation within the local government that championed intersectoral principles in prioritising social development and cohesion, political empowerment, and investment in public infrastructure. Most importantly, the programmatic interventions were driven by an accessible evidence base, underpinned by reliable injury surveillance data [90].

This base guided strategic resource deployment to interventions that systematically targeted high-risk times, places and activities that were in turn evaluated through ongoing epidemiological monitoring for refinement and improvement. The effectiveness of this evidence-based programme resulted in the implementation of similarly structured interventions in five other Colombian municipalities, where evaluations suggest that these too have led to significant reductions in homicide [91].

4. Prioritising interventions in the Western Cape

South Africa, seemingly at the forefront of progressive legislation and policy, needs to ensure that political will translates into the provision of the human resources, management capacity and moral leadership required to drive the social changes that new policies might impose on an unsupportive public still steeped in dysfunctional cultural norms and values. A cursory review of current national violence prevention strategies reveals an over-reliance on downstream interventions to reduce the short-comings of the criminal justice sector. Prevention is hence security focussed either through increased spending on private security systems and personnel and increased quotas of national and metropolitan police officers. Corresponding investment in social welfare services has not been forthcoming and the flawed implementation of the country's Domestic Violence Act, which ideally required an intersectoral response to span the justice, health, welfare and social services, serves as an example in this regard [77,78]. Similarly, the Children's Amendment Act no. 30884 of 2007 makes provision for psychological, rehabilitative and therapeutic programmes for children who have been abused, but funding has predominantly targeted the medical care of rape survivors.

The structure of government itself foments a silo-based rather than an intersectoral approach [92]. Short-term

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strategies that have currency within five-year electoral cycles tend to pursue quick fixes and politicise crime and violence by blaming lack of commitment to effective enforcement. Within this environment the BoD project has had to adopt a pragmatic approach that balances advocacy for long-term fundamental solutions with a more politically astute short-term agenda. The prevention approach has been presented at senior management level to most stakeholder departments within provincial government, highlighting the need for an intersectoral approach, the importance of progamme documentation, monitoring and evaluation and the prospects of instilling a culture of evaluation founded on evidence based on burden of disease outcome measures. To this end, the BoD project has proceeded with the institutionalisation of an all injury provincial mortality surveillance system to provide prevention-oriented outcome data and is engaged in a trauma unit-based pilot project on non-fatal injuries. A focus on two key risk factors, firearms and alcohol, is expected to deliver positive outcomes in the short-term. Already, stricter gun control legislation appears to have had a positive effect in reducing the percentage of firearm-related fatalities in Cape Town [78]. Similarly, the BoD project was instrumental in strengthening the 2008 Western Cape Liquor Bill, which regulates the trade and therefore availability of alcohol.

5. Conclusion

It is clear that efforts to address the burden of violence in the Western Cape require a multi-sectoral approach that spans the criminal justice, health and infrastructural domains. There is also a need to balance achievable short-term targets and the long-term nature of many of the strategies most needed to affect fundamental shifts in socio-cultural attitudes and propensities towards aggressive and violent behaviour. Thus, if the typical perpetrator in the Western Cape is a young male dependent on alcohol and living in an area with severe structural and social problems including unemployment, poverty, poor services (schools, healthcare, transport, etc.) and numerous armed gangs that support a drug trade, the Provincial Government may wish to provide certain “quick-fix” solutions, while investing heavily in those programmes most likely to affect a fundamental and lasting change in the long-term. Appropriate investment in programme documentation and evaluation will be important factors along the way in driving long-term investment, ensuring effectiveness and enabling replication of successful programmes. Evaluation should, wherever possible, include the measurement of behaviour change or actual changes in injury rates.

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