

**CORE**

Public Health Functions for BC

**Evidence Review:**  
**Prevention of Violence,  
Abuse & Neglect**

**Population and Public Health  
BC Ministry of Healthy Living and Sport**

*This paper is a review of the scientific evidence for this core program. Core program evidence reviews may draw from a number of sources, including scientific studies circulated in the academic literature, and observational or anecdotal reports recorded in community-based publications. By bringing together multiple forms of evidence, these reviews aim to provide a proven context through which public health workers can focus their local and provincial objectives. This document should be seen as a guide to understanding the scientific and community-based research, rather than as a formula for achieving success. The evidence presented for a core program will inform the health authorities in developing their priorities, but these priorities will be tailored by local context.*

*This Evidence Review should be read in conjunction with the accompanying Model Core Program Paper.*

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(September 2009)

***Evidence Review accepted by:***

Population and Public Health, Ministry of Healthy Living and Sport (March 2010)  
Core Functions Steering Committee (March 2010)

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## **EXECUTIVE SUMMARY**

### **Background**

Physical violence and abuse related injuries are a significant public health concern. The burden of injury from physical violence and abuse is difficult to ascertain, however morbidity and mortality data from BC have assisted in elucidating the prevalence of assault-related deaths and injuries in the province.

Assault-related mortalities in BC demonstrated the following trends:

- Males presented higher assault-related deaths when compared to females at a ratio of 3:1 with assault-related deaths peaking among those aged 20-24 years.
- Between 1990 and 2003, assault-related mortality rates in BC declined among both males and females, which is consistent with national declines in assault-related mortality rates attributed to demographic, social and economic factors.
- The leading method of injury for assault-related deaths among males was firearms and explosives (37 percent), predominantly among males aged 15-64 years. Among females, cutting and stabbing (27 percent) was the leading cause among females aged 15-75+ years.
- Assault related deaths occurred primarily at home (53 percent), suggesting that domestic or intimate partner violence should be evaluated as a potential precipitating factor for assault-related deaths.

Assault-related hospital separations in BC demonstrated the following trends:

- Males accounted for a higher number of assault-related hospital separations when compared to females at an approximately 5:1 ratio, peaking among males aged 15-24 and declining among males aged 25-69 years.
- Between 1990-2003, there was a similar pattern of decline for assault-related hospital separation rates among both males and females in BC.
- The leading cause of injury for assault-related hospital separations among both males and females was bodily force (60.7 percent) among persons aged 15-75 years.
- Forty-five percent of assault-related hospital separations occurred in an unspecified place, indicating that additional surveillance may be required to determine the location of injury occurrence.

To address physical violence and abuse, the BC Ministry of Health commissioned this systematic review to determine how physical violence and abuse injuries may be reduced by utilizing primary prevention initiatives, within a public health model. The review focuses on the strength of evidence supporting which interventions have demonstrated effectiveness in the primary prevention of physical violence and abuse. The results of this review will be used to inform programming and planning for the primary prevention of physical violence and abuse by health authorities in BC.

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To ensure that evidence-based practices were ecologically valid, the Spectrum of Injury Prevention Model (Cohen & Swift, 1999) was used. The Spectrum of Prevention Tool is a multifaceted systems approach to injury prevention targeting the individual, family, community and policymakers.<sup>1</sup> The Spectrum of Prevention Tool consists of six levels of increasing scope, and encourages an overall strategy to injury prevention.

#### **The Spectrum of Prevention Tool**

<b>Level of Spectrum</b>	<b>Definition of Level</b>
1. Strengthening individual knowledge and skills	Enhancing an individual's capacity to prevent illness and injury, and to promote safety
2. Promoting Community Education	Reaching groups of people with information and resources to promote health and safety
3. Educating Providers	Informing providers who transmit skills and knowledge to others
4. Fostering Coalitions and Networks	Bringing together groups and individuals for broader goals and greater impact
5. Changing Organizational Practices	Adopting regulations and shaping norms to improve health and safety
6. Influencing Policy and Legislation	Developing strategies to change laws and policies and influence outcomes

#### **Project Objectives**

The systematic review of primary prevention of physical violence and abuse was conducted by reviewing formal academic literature and grey-area literature. This combined approach in searching the formal and grey-area literature ensured the capture of best practices in an emerging area where there is likely to be a lack of formal scientific literature. To manage the volume of evidence, primary prevention interventions were divided by the life course period (childhood, adolescent, adulthood and older adult) of the general population.

The objectives of the review were to:

- To identify current evidence-based practices for the primary prevention of physical violence and abuse through a formal literature review and grey-area literature search.
- To assess the scope and quality of interventions for the primary prevention of physical violence and abuse.
- To identify systematic reviews that evaluate the effectiveness of primary prevention interventions of physical violence and abuse.
- To determine which primary prevention interventions are responsible for catalyzing change in community norms to prevent physical violence and abuse.

#### **Determining the Effectiveness of a Primary Prevention Intervention**

Effective primary prevention interventions were considered to be: a) those that were evaluated and found to be effective using empirical analyses (or through a systematic review) or b) those strongly supported by expert opinion through formal or non-formal consensus.

The level of evidence was determined by using the Scottish Intercollegiate Guideline Network (SIGN) taxonomy (<http://www.sign.ac.uk/>). Rankings of the evidence were based on the SIGN ratings. Based on the results of evidence appraisals, studies with rigorous methodological design were ranked as strongly supported practices. Studies with moderately rigorous methodological

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designs were ranked as promising practices. Studies with less rigorous methodological designs or based on expert consensus (either formal or non formal) or individual level expert opinion were ranked as practices requiring further investigation.

**Effective Practices for Physical Violence and Abuse Prevention and Relevance to Regional Health Authorities**

The following table provides an overview of the primary prevention interventions supported by evidence. Investments in practices classified as strongly supported, good or promising are more likely to yield reductions in physical violence and abuse related injuries. Relevance to health authorities has been summarized.

**Summary of Practices and Level of Support**

<b>Life Course Period: Childhood</b>	
Home visitation programs administered by professionals (e.g. nurses, trained child care providers) are strongly supported, especially among single parent, impoverished, teenage parents and mothers with mental health risk factors	Strongly Supported Practice
Parent skills training on anger management and developmental expectations for children	Good Practice
Educational training programs to prevent shaken baby syndrome	Promising Practice
Elementary school-based programming activities designed to enforce a non-violent and non-aggressive school climate	
Parental counselling on violence prevention by primary care providers and counselling on reducing the impact of exposure to media violence	Practice Requiring Further Support
Research on the effectiveness of multidisciplinary teams on abuse prevention	
<p><b>Relevance to Health Authorities:</b>  <b>Activities that health authorities could facilitate or lead at the childhood level are focused on parental education including the development of home visitation programs in conjunction with parenting skills training programs, Under this context, educating new parents on developmental expectations and infant care would likely lead to gains in preventing physical violence and abuse in childhood. For example, promoting parental understanding of normal infant crying behaviour and the relationship to the prevention of shaken baby syndrome. Activities for children taking place in the school setting that are likely to be promising are the implementation of strategies to promote mental health and non-violent, non-aggressive school environments.</b></p>	
<b>Life Course Period: Adolescence</b>	
Interventions targeting parent-adolescent interactions demonstrated effectiveness at decreasing aggression. Active communication strategies among parents would also be effective as a primary prevention strategy	Strongly Supported Practice
Use of intervention materials that are culturally and developmentally sensitive including integration and social inclusion of marginalized youth by educating school and government officials to their needs	Good Practice
A participatory action approach where students engage in developing, implementing, and assessing programs or strategies based on their identification and perspectives on school problems including psychoeducational or social-skills training programming	
Investigation on dating violence and interpersonal relationships curriculum efficacy From the included studies, none were found to lead to significant differences between intervention and control groups	Promising Practice
Programs building teacher efficacy and school counsellor efficacy at administration of primary prevention curriculum	Practice Requiring Further Support
Counselling on primary prevention of physical abuse by primary care providers for adolescents and parents of adolescents	
Firearm restriction strategies (including product orientation approaches) were also recommended for adolescents	

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<p><b>Relevance to Health Authorities:</b>  <b>At the adolescent level, health authorities can facilitate or lead programs targeting parents to reduce aggressive communication with adolescents. Health authorities can push for school based prevention programming that is developmentally and culturally sensitive and conducted only with rigorously tested materials and rigorous evaluation. In addition, violence prevention programming materials should address gender assumptions that perpetuate physical violence and abuse of women, and the rise in female to male dating violence.</b></p>	
<p><b>Life Course Period: Adulthood</b></p>	
Empowerment and life skills development for women with concrete tools to modify their social or economic circumstances and enable women to become more independent by building self-esteem and increasing skills and resources	Strongly Supported Practice
Primary care service providers being provided with information regarding the alternatives to screening for domestic violence against women such as the Safety and Health Enhancement Toolkit.	Good Practice
Community capacity building for primary prevention including building bridges to organizations to promote shared resource, creating and nurturing learning communities and coordinate community responses to the prevention of physical abuse and violence	Promising Practice
Inter-agency coordination of uniform policies and procedures demonstrated increased rates of identification and intervention.	
Development of primary prevention coordinating councils promoting the broad inclusion of participants	
Trans-national and cross cultural agenda in abuse prevention	
Approaches suggesting firearm restriction control and storage practices including physician counselling on the dangers of owning firearms	Practice Requiring Further Support
<p><b>Relevance to Health Authorities:</b>  <b>At the adulthood level, Health authorities could lead or facilitate activities supporting empowerment and life skills for women to prevent violence against women. In addition, capacity building activities designed to enhance the safety of women among health care service providers are also suggested.</b></p>	
<p><b>Life Course Period: Older Adult</b></p>	
Studies of ageism and its contributions to the physical abuse of elderly	Promising Practice
Strengthening collaboration and care-giver support networks including multidisciplinary collaborations	
Strengthening and building informal support networks including family, community gatekeepers, neighbours and peer supports	
Primary prevention approach to physical abuse especially among elderly in long term care facilities Including sensitizing elders to the problem of abuse	
<p><b>Relevance to Health Authorities:</b>  <b>Among the elderly, strengthening multi-disciplinary collaborations and care-giver support networks are among areas where health authorities can engage to prevent elder abuse.</b></p>	
	Practice Requiring Further Support

## **1.0 OVERVIEW/SETTING THE CONTEXT**

In 2005, the British Columbia Ministry of Health released a policy framework to support the delivery of effective public health services. The *Framework for Core Functions in Public Health* identifies prevention of violence, abuse and neglect as one of the 21 core programs that a health authority provides in a renewed and comprehensive public health system.

The process for developing performance improvement plans for each core program involves completion of an evidence review used to inform the development of a model core program paper. These resources are then utilized by the health authority in their performance improvement planning processes.

This evidence review was developed to identify the current state of the evidence-based on the research literature and accepted standards that have proven to be effective, especially at the health authority level. In addition, the evidence review identifies best practices and benchmarks where this information is available.

### **1.1 An Introduction to This Paper**

#### 1.1.1 Purpose

The purpose of this study is to provide evidence-based practice for the primary prevention of physical violence and abuse using formal academic literature and grey-area literature. The evidence base resulting from this study will be developed into a model core program paper. The model core program paper will be used to inform policy, program and practice development in British Columbia with respect to the prevention and reduction of physical violence and abuse in health authorities.

#### 1.1.2 Defining Physical Violence and Abuse

Physical violence and abuse (considered synonymous with physical assault) is a form of violence or intentional physical injury including burning, hitting, punching, shaking, kicking, beating or otherwise harming a person (NCCANI, 2004). This definition has been adopted for this core program model paper.

#### 1.1.3 Primary Prevention

While research has focused on gathering evidence regarding risk factors, resilience factors and health outcomes associated with physical violence and abuse, primary prevention intervention research has often gone unrecognized. Primary prevention refers to any maneuver that occurs to or around an individual, the stated purpose of which is to prevent abuse from ever occurring to an individual (HIRPC, 2004). Primary prevention activities have a universal focus among the general population, service providers and decision makers to engage in activities to reduce the incidence and prevalence of abuse. Primary prevention programs are often focused on education, however to ensure sustainable action, an all encompassing, multifaceted approach is required.

In addition to focusing on individual level change in behaviour, changes in societal norms are also required to ensure that long-term community level goals to reduce violence and prevent

physical violence and abuse are met (Prevention Institute, 2005). Despite this awareness of the problem, little consensus has formed regarding which interventions can effectively prevent abuse (Bethea, 1999). Interventions are a critical part of primary prevention and play the role of ensuring that exposure to a physical violence and abuse does not occur. While a broad range of primary prevention interventions have been developed and implemented by public and private agencies to prevent abuse, little evidence supports the effectiveness of these programs (Bethea, 1999). The gap in research involving effective primary prevention interventions of physical violence and abuse has led to the development of the current study. To develop a better understanding of primary prevention and its capacity to prevent physical violence and abuse, the ecologic model approach and Spectrum of Prevention Tool will be later discussed.

## **1.2 Background**

### **1.2.1 Burden of Injury**

Comprehensive statistics are often unavailable on the prevalence of physical violence and abuse in a population; therefore data on physical assaults will be used to illustrate the burden of physical violence and abuse in Canada and BC. In Canada, reported assaults (levels 1 to 3)<sup>1</sup> from 1999 to 2003, were steady, averaging approximately 7,519 per 10,000 population (Statistics Canada, 2005). During 2003 alone, the rate of reported assaults in Canada was 7,465 per 10,000 population (Statistics Canada, 2005). During 2003 in BC, reported assaults (levels 1 to 3) were 9,763 per 10,000 population (Statistics Canada, 2005). While the prevalence of physical assault is high, it is likely that the reported data are an underestimate, as physical assault is often not reported. For example, physical assaults on children outnumber sexual assaults more than 2:1 (Statistics Canada, 2000).

### **1.2.2 BC Profile of Assault-Related Mortality and Hospital Separations**

In BC, data are available on the incidence of assault-related injuries through the BC Vital Statistics Agency and Health Data Warehouse Systems. A profile of assault-related mortality and hospital separations data in BC has been provided. The data provide a summary of the cumulative assault-related mortality and hospital separations numbers and rates per 10,000 population between 1990 and 2003. A summary of mortality and hospital separation trends is provided below. Detailed figures are provided in Appendix 1.

### **1.2.3 Mortality Data**

During 1990-2003, males demonstrated higher numbers of assault-related deaths compared to females at a ratio of 3:1. Among both males and females, assault-related deaths peaked among persons aged 20-24 years. Between 1990 and 2003, assault related mortality rates in BC declined among males and females, which is consistent with national declines. Both provincial and

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<sup>1</sup> Level 1: Intentional application of force without consent, attempt or threat to apply force to another person, and openly wearing a weapon (or an imitation) and accosting or impeding another person.

Level 2: Assault with weapon or causing bodily harm constitutes assault with a weapon, threats to use a weapon (or an imitation), or assault causing bodily harm.

Level 3: Aggravated assault applying to anyone who wounds, maims, disfigures or endangers the life of complainant.

national declines in assault related mortality have been attributed to demographic, social and economic factors.

The leading mechanism of injury for assault-related deaths among males was firearms and explosives (37%) among those aged 15-64 years. The leading mechanism of injury for assault-related deaths among females was cutting and stabbing (27%) among those aged 15 – 75+ years. The leading type of injury leading to assault-related death was open wounds, followed by intracranial injury and injury to internal organs. The majority of assault related deaths occurred in the home (53%), suggesting that domestic or intimate partner violence could be a potential precipitating factor for assault-related deaths

#### 1.2.4 Hospital Separations

Hospital separations account for patient departures from a healthcare facility which may be the result of death, discharge, sign-out against medical advice or transfer. Hospital separations are most commonly used to measure the utilization of hospital services. Separations, rather than admissions, are used because hospital abstracts for inpatient care are based on information gathered at the time of discharge.

Between 1990 and 2003 in BC, males accounted for a higher number of assault-related hospital separations when compared to females at a ratio of approximately 5:1. Hospital separations peaked among persons aged 15 – 24 years and declined among persons aged 25- 69 years. Over the 13 year period, males and females exhibited similar patterns of decline for assault-related hospital separation rates

The leading cause of injury for assault-related hospital separations among males and females was bodily force (60.7%) The leading type of injury leading to assault-related hospital separation was fractures, followed by intracranial injury and open wounds. Forty-five percent of assault-related hospital separations resulted from injury sustained at an unspecified place, suggesting the need for additional surveillance or qualitative data collection in order to determine location of injury occurrence.

#### 1.2.5 Caveats

Changes from ICD-9 to ICD-10 coding practices could have potentially impacted the accuracy of the reported data. Injury data for mortality and hospital separations were coded with external cause codes ranging from E800-E999 of the ICD-9 or V00-Y98 of the ICD-10 coding systems (WHO, 2000). The coding system for external causes of injury changed significantly from ICD-9 to ICD-10 at the beginning of the year 2000 for mortality data and at the beginning of the fiscal year 2001/2002 for hospital separation data. In addition, the annual number and rate of injury mortality represents deaths by calendar year, while the annual number and rate of hospital separations represented separations by fiscal calendar year.

Additional caveats related to the use of hospital separations data included issues surrounding how hospitalization records are tabulated and the potential variability among hospitals in coding practices. Hospital separations represent the number of injury-related discharges, rather than the number of individuals that have been hospitalized. Hospital separations data can also vary over

time and between areas due to factors not related to health including accessibility of treatment and medical and administrative decisions (Walsh & Jarvis, 1992; Chevalier, Choiniere, Ferland, et al, 1995). In addition, there was a general decline in hospital separation rates in BC, which should be taken into consideration when interpreting trends and patterns in hospital separations resulting from assault related injuries.

#### 1.2.6 Interpreting Data

Mortality and hospitalization data have identified that males are a population experiencing both high assault-related mortality and hospital separations rates. When interpreting data that suggests that males are victims of assaults, the context of the population based health rates should be considered. Population based data does not differentiate whether the physical violence and abuse occur as a single-public event or private event that occurs within the context of an abusive relationship (J. Cory, personal communication, July 24, 2007). In addition, data also do not differentiate between physical violence and abuse that are a one-time occurrence or chronic occurrence (J. Cory, personal communication, July 24, 2007). Data provided in this report also do not provide information on whether the mortality or hospitalization occurred as a result of violence perpetration or victimization.

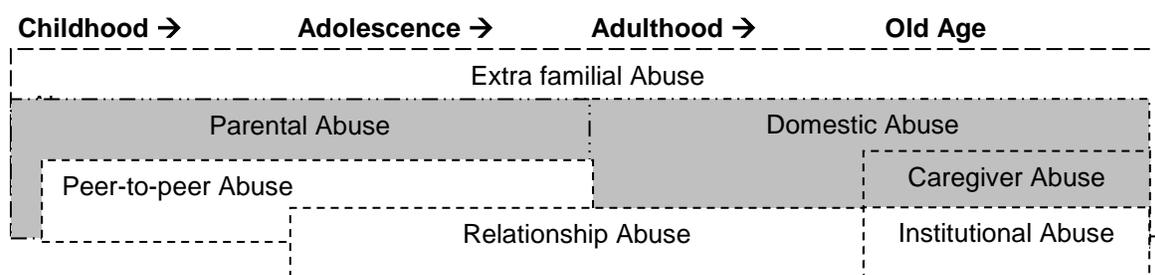
Gender based analysis may be a viable means to address the gaps existing in population based data. Gender based analysis is a process that uses sex and gender as an organizing principle and as a way of viewing research processes and data (Johnson, Greaves & Repta, 2007). Gender based analysis is an important tool to help identify and clarify the differences between women and men, and boys and girls, as well as the ways that gender influences health (Health Canada, 2000). Without a gender based analysis, it would appear that the focus of prevention strategies should be directed at males (J. Cory, personal communication, July 24, 2007). However, from other survey data, it is often shown that children, women and seniors are populations at increased risk of experiencing physical abuse and violence.

#### 1.2.7 Survey Data

Survey research on physical violence and abuse has often targeted populations such as children, women and older adults. As demonstrated by population based mortality and hospital separations data, physical violence and abuse experiences of these populations are often underrepresented. Among children, physical abuse accounted for 31% of all abuse related investigations as reported by the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS). The CIS represents the first national study to examine the incidence of child maltreatment in Canada (PHAC, 2002). Through CIS, rates of 5.77 cases of physical abuse were investigated and confirmed for every 1,000 children in Canada (Trocme et al., 2005). Among women, as reported by the Violence Against Women Survey (1993) half of Canadian women (51%) have been victims of at least one act of physical or sexual violence after the age of 16. Of all female victims of violent crimes in 2000, 47% were victims of common assault and 9% of assault with a weapon causing bodily harm (Statistics Canada, 1993). Among older adults in 2002, the largest category of police-reported violent crime committed was assault - usually common assault, such as pushing, slapping, punching and threats to apply force (Department of Justice Canada, 2000).

At all points during the life course, family members have often been the perpetrators of violent acts directed at children, siblings, spouses and parents. In addition, the reported data are likely to be a vast underestimate. The Canadian Centre for Justice Statistics (2001) found that family members, including relatives, constituted the vast majority (93%) of alleged perpetrators of assaults. It was also found that among family assaults parents were the perpetrators in 56% of physical assaults against youths aged 12 to 17 years (CCJS, 2001). Siblings were responsible for approximately 25% of physical assaults, and extended family members committed 8% of physical assaults against youth (CCJS, 2001). Among women, a Canadian study reported that women account for 88% of all spousal violence victims reported to a sample of 179 police agencies in Canada (Status of Women, 2004). Among older adult family violence reported to the police forces, adult children and spouses accounted for almost three-quarters (71%) of those responsible for the victimization of older adults (Statistics Canada, 2000). The different contexts of interfamilial abuse and their corresponding life periods of relevance are highlighted in Figure 2.

**Figure 1: Types of Abuse and Corresponding Periods during the Life Course**



Due to the high prevalence of abuse found through both statistical and survey research, it is important to consider the impact on the quality of life of the victims, as well as to society at large.

### 1.2.8 Health Outcomes Associated with Physical Violence and Abuse

Research on physical abuse has largely focused on determining which health outcomes are associated with physical violence and abuse exposure. The experience of physical violence and abuse during the life course has marked consequences on health in several domains: physical health, psychological health, behaviour and costs to society (NCCANI, 2004). These domains are not mutually exclusive, but rather have complex and interdependent relationships. Health outcomes associated with physical abuse vary widely and are affected by a combination of individual level factors (Chalk, Gibbons, & Scarupa, 2002), including:

- Age and developmental status when the abuse or neglect occurred
- Frequency, duration and severity of abuse
- Relationship between the victim and his or her abuser
- Resilience of the victim

Additional health outcomes associated with the experience of physical abuse are increased mortality, injury and disability, worsened general health, chronic pain, substance abuse, dissociation, an overuse of health services and unmet need for services, as well as strained relationships with providers (Plitcha, 2004; Moskowitz, 2004; Brown, 2003).

Adverse health outcomes from exposure to physical abuse are based on the allostatic nature of abuse experiences. Allostasis refers to the increasing cumulative damage to biological, psychological and behavioural systems as the number and/or duration of exposures increase (Ben-Shlomo & Kuh, 2002). Damage to health can occur in separate and independent ways, or cluster together in socially patterned ways. It is also known that for women experiencing violence, some of these adverse health outcomes are worse due to ongoing, chronic exposure to physical abuse and violence (J. Cory, personal communication, July 24, 2007). From a preventive point of view, these chains of events help to identify points of intervention where chains of risk may be broken and a new life course trajectory established (Ben-Shlomo & Kuh, 2002) for both abuse victim and perpetrator. Primary prevention of physical abuse represents the prevention of allostatic damage to health systems.

#### 1.2.9 The Ecologic Model

The experience of physical abuse is strongly affected by individual, environmental and community level factors. The ecologic model concept recognizes that each person functions within a complex network of individual, family, community, and environmental contexts that impact their capacity to avoid risk (Cohen & Swift, 1999). The ecologic model considers the different ways that social determinants of health can impact an individual, family, community and society.

The social determinants of health are critical factors in assessing those who are at risk of being victims, and perpetrators, of violent acts. These determinants can include, but are not limited to, factors such as poverty, literacy, addictions, drugs use, mental disorders, homelessness, gender, cultural ethnic factors (Raphael & Curry, 2004). When these factors are present in environments, powerlessness and isolation are common and the likelihood of violence increases (Prevention Institute, 2006). Low income communities, people of color, women and youth all are disproportionately affected by varying types of violence due to the interplay of these root factors (Prevention Institute, 2006).

The relationships among the social determinants of health, violence and abuse are complex and multi-layered; they can exist at multiple levels of the ecological model. To address the complex nature of physical violence and abuse, and the social determinants of health, a public health approach has been put forth by the World Health Organization (Krug et al., 2002). This response is partly due to the fact that violence has often been addressed in a context-specific manner, by issues-focused groups including women's health, domestic violence, sexual abuse, and anti-bullying groups. By combining expertise, identifying global risk patterns, and providing interventions that are equally broad in scope, WHO hopes to more effectively address violence at the community and population levels.

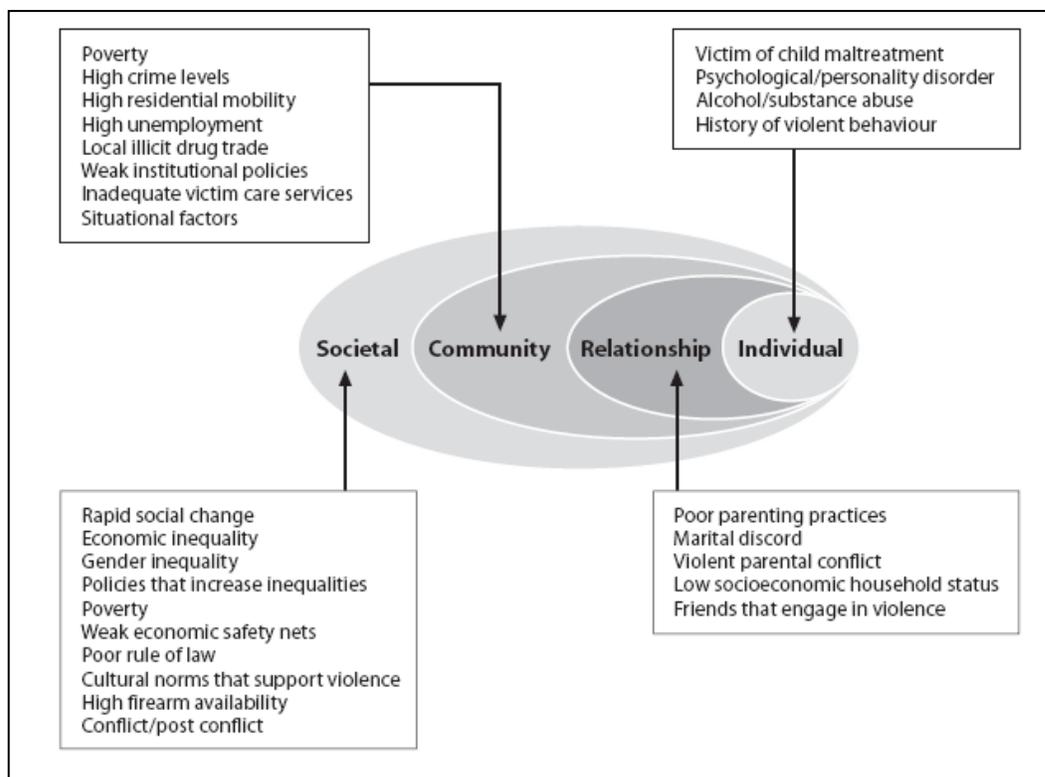
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The *World Report on Violence and Health* (Krug et al., 2002) also examines violence from the perspective of the ecologic model. To elaborate on the ecologic model, a summary of the factors from the *World Report on Violence and Health* is provided below:

1. At the individual level, personal history and biological factors influence how individuals behave and their likelihood of becoming a victim or a perpetrator of violence. Biological factors include sex, mental health and ethnicity. At this level, impulsivity, low educational attainment, substance abuse, and prior history of aggression and abuse also can play a role.
2. At the relationship level, personal relationships such as those with family, friends, intimate partners and peers may also influence the risks of becoming a victim or perpetrator of violence.
3. At the community level, contexts in which social relationships occur (such as schools, neighbourhoods, workplaces, bars, pubs) also influence the likelihood of violence. Drug trafficking, high levels of unemployment, social isolation, poverty, physical deterioration and lack of institutional support can also play a role.
4. At the societal level, economic and social policies that maintain socioeconomic inequalities between people, the availability of weapons, and social and cultural norms impact the presence or absence of violence.

**Figure 2: The Ecologic Model**



**Source:** Krug et al. (2002). *World Report on Violence and Health*.

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**1.2.10 Ecologic Model and Primary Prevention**

Given the potential for primary prevention strategies to prevent the incidence of physical violence and abuse, it is important to examine the evidence supporting primary prevention and how that evidence may translate into policy, program and practice.

Application of the ecologic model to injury prevention has led to the development of a tool known as the Spectrum of Prevention Tool. The Spectrum of Prevention Tool is a multifaceted systems approach to injury prevention targeting the individual, family, community and policymakers (Cohen & Swift, 1999). The Spectrum of Prevention Tool consists of six levels of increasing scope and encourages an overall strategy to injury prevention. The Spectrum of Prevention Tool levels and definitions are provided in Table 1.

**Table 1: The Spectrum of Prevention Tool**

Level of Spectrum	Definition of Level
1. Strengthening individual knowledge and skills	Enhancing an individual's capacity to prevent illness and injury, and to promote safety
2. Promoting Community Education	Reaching groups of people with information and resources to promote health and safety
3. Educating Providers	Informing providers who transmit skills and knowledge to others
4. Fostering Coalitions and Networks	Bringing together groups and individuals for broader goals and greater impact
5. Changing Organizational Practices	Adopting regulations and shaping norms to improve health and safety
6. Influencing Policy and Legislation	Developing strategies to change laws and policies and influence outcomes

**Source:** Adapted from Cohen & Swift. (1999). The Spectrum of Prevention: Developing a Comprehensive Approach to Injury Prevention. *Injury Prevention*.

The Spectrum of Prevention Tool has been accepted widely in areas of prevention research in the United States including the Department of Health Services in California, Berkeley University, National Youth Violence Prevention Resource Center, Partners for Peace, National Highway Traffic Safety Administration and internationally by the World Health Organization. While the spectrum of prevention tool has been highly endorsed, it has not yet been formally evaluated (Cohen & Swift, 1999), though it is believed that a strong evidence base exists to support its efficacy.

## **2.0 PURPOSE**

The aim of this study is to provide evidence-based practices in the area of primary prevention of physical violence and abuse using formal academic and grey-area literature. Physical violence and abuse is a form of violence or intentional physical injury including burning, hitting, punching, shaking, kicking, beating, or otherwise harming a person (NCCANI, 2004).

The combined approach in searching the two types of literature will ensure best practices are captured in an emerging area where there is likely to be a lack of formal research literature. The evidence base resulting from this study will be used to inform policy, program and practice development in BC with respect to the prevention and reduction of physical violence and abuse by health authorities.

### **2.1 Objectives**

The objectives of this systematic review were:

- To identify evidence-based practices for the primary prevention of physical violence and abuse through a formal literature review and grey-area literature search
- To assess the scope and quality of interventions for the primary prevention of physical violence and abuse
- To identify systematic reviews that evaluate the effectiveness of primary prevention interventions of physical violence and abuse
- To determine which primary prevention interventions are responsible for catalyzing change in community norms to prevent physical violence and abuse

### **2.2 Research Questions**

***How can primary prevention interventions in the general population lead to a reduction in physical violence and abuse?***

#### 2.2.1 Supporting Research Questions:

To address the overarching research question, the following questions have been developed:

1. Which primary prevention interventions in the general population exist at the individual level demonstrating change in knowledge, change in behaviour, and change in exposure to physical violence and abuse when compared to no intervention?
2. Which primary prevention [education] interventions exist at the community level in the general population demonstrating change in knowledge, change in behaviour and change in exposure to physical violence and abuse when compared to no intervention?

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3. Which primary prevention interventions demonstrate change in knowledge, change in behaviour, and changes in service provision among service providers when compared to no intervention?
4. Which coalitions and networks exist which have demonstrated success in primary prevention of physical abuse?
5. Which regulations, laws, decrees, institutional policies, records and practices exist that have led to a reduction in reported incidence and prevalence of physical violence and abuse compared to none?
6. Which primary prevention organizational interventions exist that have demonstrated effectiveness in changing knowledge, behaviour, abuse-related exposure and subsequent policy regarding the prevention of physical violence and abuse at municipal (or county, provincial or state) or federal levels?

Detailed information on how research questions were formed using the PICO method are provided in Appendix 2.

## **3.0 METHODS**

### **3.1 Search Strategy for Identification of Studies**

A comprehensive systematic search strategy was developed based on the guidelines provided by the National Health Services, Centre for Reviews and Dissemination (2001). Comprehensive search included grey-area and academic literature. In conjunction with a research consultant, the following databases (1995 – 2005, extended to March 2006) were searched for national and international literature: MEDLINE, EMBASE, Cochrane Database of Systematic Reviews (CDSR), ERIC and PsychINFO.

A grey-area literature search was conducted to find additional information on networks, coalitions and policies existing in the area of physical violence and abuse prevention. Violence Prevention Literature Library from the RespectED: Violence and Abuse Prevention Program, Canadian Red Cross and National Clearinghouse on Family Violence was hand-searched. Peer-reviewed journals focusing on research in abuse and/or violence (e.g. JAMA, BMJ, Archives of Pediatric & Adolescent Medicine, Child Abuse and Neglect) were also hand searched. Search terms were produced and synonyms were generated for the key research questions. Key Terms such as: [physical abuse]+[violence] + [behaviour] and other combinations of different keywords, derived from key research questions, were the core terms used in the complex search. A summary of the search terms used in each strategy has been provided in Appendix 3.

To identify additional published, unpublished and ongoing studies, from the inception of the database:

- Relevant studies identified from the above sources were entered into RefMan and the related articles feature used
- Reference lists of all relevant studies were assessed

### **3.2 Inclusion/Exclusion Criteria**

An analytic framework, comprising 7 key questions related to the primary prevention of physical violence and abuse to be answered by systematic review, was developed. Inclusion and exclusion criteria are described below.

#### **3.2.1 Inclusion Criteria**

All studies met the following eligible criteria for inclusion:

- Research that evaluated primary prevention interventions for physical violence and abuse across the life course.
- The study must have a pre-intervention measure and post intervention measure (with the exception of systematic review literature evidence).
- The study must report at least one objectively quantified outcome (injury rate, injury severity, injury frequency, change in behaviour, change in service provision, change in knowledge or change in surrogate measure).

- The study must be reported in English Language.
- The study must be published during the period 1995-2005 (extended to March 2006).
- The study must be applied to a target population between ages 0 and 84 years old.
- The study must include non-inpatient populations.

### 3.2.2 Exclusion Criteria

The following types of studies were excluded:

- Studies targeting First Nations populations, unless a subset of the primary prevention intervention analysis included the general population. Though some First Nations physical violence and abuse prevention programs have demonstrated efficacy, there is a lack of definitive best practice guidelines found specifically targeting the First Nations community. While the recommendations from this systematic review can be implemented in First Nations communities and are likely to demonstrate efficacy, a systematic review with a culturally oriented approach should be developed specifically to target First Nations populations.
- Studies targeting populations with criminal record(s) of physical violence and abuse and who are involved in the federal, provincial or municipal justice system at any level.
- Studies targeting terrorism and terrorist acts as a form of violence.
- Studies targeting patients with a primary diagnosis of substance abuse.
- Studies targeting populations with mental health disorders.

## **3.3 Study Identification and Screening**

A comprehensive review process was applied to all retrieved articles derived from the search. One reviewer conducted searches and screened the titles and abstracts of all retrieved articles to exclude articles irrelevant to the scope of this review. The review literature screening tool for abstracts is provided in Appendix 4. Two reviewers independently assessed the remaining articles (titles and abstracts) to determine whether they met the inclusion criteria (with any disagreements resolved through discussion or with assistance of a third reviewer). Following title and abstract review, full articles were obtained for final inclusion consideration. Two reviewers independently assessed the full articles to determine whether they met the inclusion criteria (any disagreements were resolved through discussion).

## **3.4 Quality Assessment**

Methodological quality assessment was completed by at least two reviewers. Study quality was appraised using evidence appraisal tools adapted from the Scottish Intercollegiate Guideline Network (SIGN), Cochrane Collaboration and the Agency for HealthCare Research and Quality (AHRQ). Components adapted from SIGN included measurements of the quality of all types of

study designs, including randomized control trials and observational studies. SIGN criteria measured the following study design issues:

- Randomized control trial – study population, randomization, blinding, interventions, allocation concealment, intention-to-treat analysis, outcomes, funding or sponsorship.
- Observational study – comparability of subjects, exposure or intervention, outcome measures, statistical analysis, funding or sponsorship

Core validation criteria were adapted from the Cochrane Collaboration to measure bias. Core validation criteria assisted in determining the risk of bias from each study. Risk of bias was estimated based on the extent to which the publication adequately fulfilled the criteria in Table 2.

**Table 2: Risk of Bias Categories**

<b>Risk of Bias</b>	<b>Interpretation</b>	<b>Relationship to Individual Criteria</b>
A. Low risk of bias	Plausible bias unlikely to seriously alter the results	All of the criteria met
B. Moderate risk of bias	Plausible bias that raises some doubt about results	One or more criteria partly met
C. High risk of bias	Plausible bias that seriously weakens confidence in the results	One or more criteria not met

### **3.5 Data Extraction**

Two reviewers used a piloted pre-specified data extraction form, conducted data extraction independently and cross-checked results. Data extraction was conducted on randomized or observational studies considered to be at a low or moderate risk of bias.

### **3.6 Data Synthesis and Analysis**

Data from the included studies was too heterogeneous to combine using any forms of pooled analyses, thus narrative synthesis of results was conducted. Given the vast amount of peer reviewed and grey-area literature in the area of violence, physical abuse and physical abuse prevention, it is likely that the majority of promising primary prevention interventions for violence and abuse exist at individual, community and organizational levels.

### **3.7 Formulating Recommendations**

The level of evidence in support of each question was determined by using the SIGN taxonomy. Rankings of the evidence were based on the SIGN ratings. Level of evidence, descriptions and grading strategies are provided in Table 3 (p. 19).

For each period in the life course, evidence was evaluated by SIGN rankings. Practices ranked at SIGN Grade A were considered to be strongly supported. Practices ranked at SIGN Grade B and Expert opinion by formal or non- formal consensus processes (including individual experts) were considered to be good practices. Practices ranked at SIGN Grade C were considered to require further support by more empirically sound evidence. Practices ranked as SIGN Grade GPP were considered to be promising practices.

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While the use of SIGN rankings places primacy on randomized controlled trials, systematic reviews and meta-analyses, evidence was subject to weighting. For example, an intervention rated as Grade B which also demonstrated formal consensus or a good practice point, could be bolstered to a Grade A ranking. This rating practice ensured that different types of studies could be combined to recognize the contributions of observational studies to the evidence base.

**Table 3: Levels and Ranking of Evidence**

Level of Evidence	Description	SIGN Grade of Evidence	Ranking Evidence
1++	High quality meta-analyses, systematic reviews of Randomized Controlled Trial, or Randomized Controlled Trial with a low risk of bias	<b>Grade A:</b> Excellent/Good Strongly Recommended	<b>Strongly Supported Practice</b>
1+	Well conducted meta-analyses systematic reviews of Randomized Controlled Trial, or Randomized Controlled Trial with a low risk of bias		
1	Meta-analyses, systematic reviews of Randomized Controlled Trial, or Randomized Controlled Trial with a high risk of bias		
2++	High quality systematic reviews of case-control or cohort studies; quality case-control or cohort studies with a very low risk of confounding, bias, or chance and a moderate probability that the relationship is causal	<b>Grade B:</b> Recommended	<b>Good Practice</b>
2+	Well conducted case control or cohort studies with a low risk of confounding, bias, or chance and a moderate probability that relationship is causal		
2-	Case control or cohort studies with a high risk of confounding, Bias, or chance and a significant risk that relationship is not causal	<b>Grade C:</b> Insufficient Evidence	<b>Practice Requires Further Support</b>
3	Non-analytic studies, e.g. case reports, case series		
4	Expert opinion	<b>Grade D:</b> Formal or Informal Consensus including individual expert opinion	<b>Good Practice</b>
GPP	Recommended based on clinical practice points	<b>Good Practice Point (GPP):</b> Requires further investigation	<b>Promising Practice</b>

## 4.0 RESULTS

A total of 866 papers appeared from titles/abstracts to match inclusion criteria; these were retrieved in full for further review. After removing duplicate results, 452 papers were examined for inclusion, 112 of which met the criteria for study inclusion and 340 were excluded.

After searching was completed, 112 (Medline: 27, EMBASE: 19, PsychINFO: 17, Cochrane: 3, ERIC: 13; Handsearching: 33) studies met inclusion criteria. Detailed information on the results from searching are provided in Appendices 5 and 6.

Once evidence appraisal was conducted, 13 studies met criteria as SIGN Grade A ranking (Strongly Supported Practices), 5 studies met criteria as SIGN Grade B ranking (Good Practice), 21 studies met criteria for SIGN Grade C ranking (Practice Requiring Further Support), 27 studies met criteria for SIGN Grade D ranking (Good Practice) and 46 studies met criteria for SIGN GPP ranking (Promising Practices). Among the included studies, 34 targeted child populations, 49 targeted adolescent populations, 21 targeted adult populations and 8 targeted older adult populations. Among the included studies, 20 were relevant to research question 1, 42 were relevant to research question 2, 28 were relevant to research question 3, 8 were relevant to research question 4, 7 were relevant to research question 5 and 7 were relevant to research question 6. Number of studies by SIGN ranking, targeted population and research question has been provided in Table 4.

**Table 4: Summary of Number of Studies by SIGN Ranking and Targeted Population**

<b>SIGN Ranking</b>	<b>Life Course Period</b>	<b>Research Question (RQ)</b>
Grade A: 13	Childhood: 34	RQ1: 20
Grade B: 5	Adolescent: 49	RQ2: 42
Grade C: 21	Adulthood: 21	RQ3: 28
Grade D: 27	Older Adult: 8	RQ4: 8
Grade GPP: 46		RQ5: 7
		RQ6: 7

To determine which studies were relevant to the 6 research questions of interest, included studies were further classified by SIGN ranking, targeted population and research questions. A summary of papers by author and study publication year, SIGN ranking, targeted population and applicability to the research questions is provided in Table 5. SIGN GPP rankings of evidence were provided separately in Table 6.

Due to the volume of studies included, and the complexity of narrative synthesis for 6 separate research questions, results were summarized into 6 sections. Each section contains the research question under study and the 4 life course periods (childhood, adolescence, adulthood and older adult) of interest. Within each life course period, the 5 levels of SIGN Grade rankings (A, B, C, D and GPP) were provided and evidence was presented under these constructs. Study results applicable to each Grade were summarized with intervention effect sizes reported wherever feasible. Detailed summaries of study results were provided for each evidence level as most of the evidence was derived from primary studies. For SIGN Grades where evidence was not found through searching, lack of evidence is explicitly stated.

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**Table 5: Studies (by Author, Citation Year) tabulated by Research Question and Level of Evidence (SIGN)**

Life Course Period	Grade	RQ1	RQ2	RQ3	RQ4	RQ5	RQ6
<b>Childhood</b>	A	Roberts et al., 1996 Guterman, 1999 Constantino et al., 2001 Bilukha et al., 2005 Macleod & Nelson, 2000 Elkan et al., 2000	Littel et al., 2003				
	B	Baydar et al., 2003	Lusielli et al., 2005				
	C	Robinson et al., 2001	Flannery et al., 2003 Vazsonyi et al., 2004 Hawkins et al., 1999	Johnson et al., 1999	Layants & Epstein, 2005 Mulroy & Shay, 1997		
	D	Shephard & Farrington, 1995 Barr, Barr & Taylor, 2005	Zwi & Rifkin, 1995 Spivak & Prothrow-Smith, 2001 Bethea, 1999	Committee on Public Education, 2001 Task Force on Violence Prevention, 2001 Rivara, 1995 Sege & Hoffman, 2005 Mace et al., 2001			
<b>Adolescent</b>	A		Foshee et al., 1998 Foshee et al., 2000 Flay et al., 2004 Spath et al., 2000				
	B						
	C	Washington & Kuffel, 2002	Gardner et al., 2004 Bosworth et al., 1996 Harrington et al., 2001 Marshall et al., 1996 Cheadle et al., 2001	Newman-Carson et al., 2004 Sege, 2005		Bushman & Cantor, 2003 Kotinsky et al., 2004	
	D		Greene, 2005 Greene, 1998 Dunesbury et al., 1997 Stanley et al., 2004 Kendell et al., 2003	Sege & Hoffman, 2005 Meyer & Mashoo, 2005 Sideinger et al., 2005			Osler & Starkey, 2005
<b>Adulthood</b>	A				Allen, 2006	Hahn et al., 2005	
	B	Hyman et al, 2000		Cory & Dechief, 2007 Ramsay et al., 2002			
	C		Coyne-Besley et al., 2001			Ludwig & Cook, 2000	
	D		Bowen et al., 2004 Budde et al., 2004 Sobol et al., 2004		Williams, 2004		American College of Physicians, 1995 Pearlman & Waalen, 2000
<b>Older Adult</b>	A						
	B						
	C	Wood & Stephens, 2003					
	D	Vinton, 1999			Ward, 2000		

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**Table 6: Studies (by Author, Citation Year) Tabulated by Research Question and GPP Level of Evidence**

<b>Life Course Period</b>	<b>RQ1</b>	<b>RQ2</b>	<b>RQ3</b>	<b>RQ4</b>	<b>RQ5</b>	<b>RQ6</b>
<b>Childhood</b>	Macmillan & Wathen 2005 Runyon et al 2004 Rivara 2002	Browne et al 2005 Huesmann et al 1996 Rosenberg & Knox 2005	Mace et al 2001 Denham 1995			
<b>Adolescent</b>	Rickert et al 2002 Ahmann 2001	Meyer et al 2004 Lamberg 1998 Multisite VP Program 2004 Orpinas et al 2004 Philips-Smith et al 2004 Sege 2004 Miller-Johnson et al, 2004 Farrell et al 2001 Knoester et al 2005 Waldron 2003 Kohn 2004	Browne et al 2005 Ginsburg 1998 Christoffel et al 2000 Knox et al 2005 Roderigues 2005 Hill 2005 Leaf et al 2005 D'Andrea et al 2004 Brinson et al 2004	Riner et al 1999	Powell et al 1996 Freed 1998	Jiwani & Berman 2001
<b>Adulthood</b>	Coker 2004	Faris, 2001	Runyon et al 2004 American College of Physicians 1995 Cory & Dechief 2007 Ramsay, 2002	Family Violence Prevention Fund 2004	Cole & Flanagan 1999	Shepard 2005 Graffunder et al 2004
<b>Older Adult</b>		Kinnon 2001		Ward 2000		Jamieson & Hart 2004

## **4.1 Results Summary**

Search results were synthesized according to the level of evidence and the period during the life course that the primary prevention intervention targeted. Practices and their degree of supporting evidence are summarized in this section.

### 4.1.1 Childhood Primary Prevention Interventions

#### *Home Visitation: Strongly Supported*

Home visitation is defined as a program that includes visitation of parent(s) and children in their home by trained personnel who convey information about child health, development and care; they offer support, provide training or deliver any combination of these services (Bilukha et al., 2005). Visits must occur during at least part of the child's first 2 years of life, but can begin during pregnancy and can continue after the child's second birthday (Bilukha et al., 2005). Five studies on home visitation strategies met criteria for Grade A level evidence for individual level change in exposure to physical violence and abuse (3 meta-analyses, 2 systematic reviews). While study findings were mixed, a targeted population for home visiting effectiveness was identified. One RCT of a program augmenting home visitation was found to be effective at increasing parents understanding of childhood facial expression but yielded no effect on physical abuse prevention.

#### *Parent Skills Training: Good Practice*

Baydar et al. (2003) evaluated the Incredible Years Parenting Training component of the Head Start program. Structural equation modeling showed that parent engagement training was associated with improved parenting in a dose-response fashion. Mothers with mental health risk factors (i.e., depression, anger, history of abuse as a child and substance abuse) exhibited poorer parenting than mothers without these risk factors. However, mothers with risk factors were engaged in, and benefited from the parenting training program at levels that were comparable to mothers without these risk factors. Runyon et al. (2004) reviewed research documents that interventions geared only toward the parent have been found to produce significant improvements with respect to parenting abilities, parent-child interactions and children's behaviour problems. A cross-sectional study of the RETHINK parenting program among parents with normal anger levels demonstrated effectiveness when presented by professionals who have both background training and experience in parenting education and/or group facilitation and have the in-depth training.

#### *Education to Prevent Shaken Baby Syndrome: Good Practice*

Barr, Barr & Taylor (2005) conducted a narrative review of efforts to prevent shaken baby syndrome. It recommended that educational interventions for new fathers (either prenatally or in the hospital after the child is born) are implemented to prevent shaken baby syndrome. Prevention programming was also recommended during childhood and adolescence as a part of health curriculum where realistic expectations can be developed for normal crying among infants and care giving stress.

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*Elementary School Based Programming Activities: Promising Practice*

A school based intervention targeting school climate was recommended for change in behaviour. Luiselli et al. (2005) examined the effectiveness of a whole-school intervention on positive behaviour support on student discipline problems, including violent behaviour and academic performance. Compared to the pre-intervention phase, office referrals increased during the initial three months of intervention, but decreased in the final two months of the first school year, and throughout the following school year and after follow-up. It was concluded that student discipline problems decreased and academic performance improved following violence prevention intervention. Expert consensus evidence focused on school based violence prevention activities designed to: 1) reduce stigmatization of children perpetrating bullying (Spivak & Prothrow-Smith, 2001), 2) promote underlying principles of positive discipline (Zwi & Rifkin, 1995) and 3) increase the value of children (Betha, 1999).

*Primary Care Providers Educating and Counselling Parents: Practice Requiring Further Support*

Johnson et al. (1999) examined counselling on violence prevention by pediatric residents. Before the program, guns or violence was discussed at 9.7% of the visits; this increased to discussion at 19.1% of the visits after the program (OR= 2.20, 95% CI: 1.02 -4.74). Improvement was sustained 6 months after the program and more than 80% of pediatric residents felt the program increased their knowledge and taught them skills. At the expert consensus level, the Task Force on Violence Prevention (1999) recommended that pediatricians should incorporate physical violence and abuse prevention at all parts of the child and adolescent stages include: early nurturing, limit setting, safety screening and advocacy. Rivara (1995) also recommended that pediatricians can play a major role in violence prevention through recognition and intervention for poor parenting, provision of social support to families, recognition and management of behavioural problems and promotion of preschool and early childhood education programs.

*Multidisciplinary Teams on Abuse Prevention: Practice Requiring Further Support*

Layants & Epstein (2005) suggested that multi-disciplinary teams (MDTs) in child welfare led to increased coordination and collaboration between agencies. Referral sources, team members and service recipients saw the multidisciplinary approach as advantageous.

**Table 7: Summary of Primary Prevention Intervention Results Targeting Childhood Populations**

Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Roberts et al., 1996; Guterman, 1999 Constantino et al., 2001 Bilukha et al. 2005 Macleod & Nelson, 2000 Elkan et al., 2000	Meta-Analysis & Systematic review	Home visitation programs that are administered by professionals (e.g. nurses, trained child care providers) are strongly recommended especially among single parent, impoverished, teenage parents and mothers with mental health risk factors	Strongly Supported Practice	1
Littel et al., 2003	Meta-analysis	Multisystemic therapy by home based intervention or children with behavioural problems	Strongly Supported Practice	2
Baydar et al., 2003 Runyon et al., 2004	Controlled before and after study	Parent skills training on anger management and developmental expectations for children	Good Practice	1

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Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Barr et al., 2005	Non-formal consensus	Educational training programs to prevent shaken baby syndrome	Promising Practice	1
Luiselli et al.2005 Zwi & Rifkin, 1995 Huesmann et al., 1996	Before and after study	Elementary school based programming activities designed to enforce a non-violent and non-aggressive school climate	Promising Practice	2
Johnson et al., 1999 Task Force on Violence Prevention, 2001	Prospective study; Formal consensus	Parental counselling on violence prevention by primary care providers and counselling on reducing the impact of exposure to media violence	Practice Requiring Further Support	3
Layants & Epstein, 2005	Non-formal consensus	Research on the effectiveness of multidisciplinary teams on abuse prevention	Practice Requiring Further Support	4

**4.1.2 Adolescent Primary Prevention Interventions**

*Interventions Targeting Parent-Adolescent Interactions: Strongly Supported*

Spoth et al. (2000) conducted an RCT on a brief family intervention to reduce aggressive and hostile behaviours among adolescents using multi-informant, multi-method measures of adolescent-parent interactions. All measures showed a generally positive trend in intervention-control-group differences over time. During 10th grade, significant intervention differences were found for adolescent self-report of decreased aggressive and destructive conduct ( $p < 0.05$ ), with relative reduction rates ranging from 31.7% to 77.0%. Significant differences were also shown for observer-rated aggressive and hostile behaviours in adolescent-parent interactions ( $p < 0.05$ ). Expert consensus level evidence targeting parent-adolescent interactions suggested that strategies for good parental communications leading to primary prevention of family violence including: 1) active communication, 2) expanding vocabulary to including statements of feeling, 3) using win-win negotiation strategies and 4) developing peaceable homes for the student environment.

*Use of Culturally and Developmentally Sensitive Intervention Materials: Good Practice*

Flay et al. (2004) conducted an RCT on a prevention program that addresses multiple risk behaviours and teaches conflict resolution skills among inner city African American boys in grades 5 through 8. Effect sizes for violence (0.31 and 0.41) indicated effectiveness among the intervention group. This evidence suggested that interventions that are theoretically derived, developmentally appropriate and culturally sensitive can have concurrent effects on multiple risk behaviours including violence. In addition, recommendations to change the culture and norms of a school included a comprehensive multifaceted approach including peer, family, media and community components beginning in primary grades and reinforced across grade levels, activities designed to promote positive school climate or culture should be elements of classroom management strategies (Dunesbury et al., 1997). Finally, Brinson et al (2004) recommended that where possible, school counselors use cross cultural conflict resolution strategies to deal with violence. Recommendations included adaptation of conflict resolution methods exemplified in low conflict societies. Borrowing strategies from low conflict societies to change the norms at the school level was an optimum goal.

*Participatory Action Approach among Youth in Schools: Good Practice*

Greene (2005, 1998) recommended a participatory action approach, students engage in developing, implementing, and assessing circumscribed programs or strategies based on their identification of, and perspectives on, school problems. School based programming activities with several psychoeducational or social-skills training programs have also been found to be effective (Greene, 2005; Greene, 1998). Greene (2005) and Dunesbury et al (1997) also recommended developmentally tailored approaches for programming and teaching interpersonal skills, including personal and social competence, and use of multiple teaching and training modalities.

*Dating Violence and Interpersonal Relationships Curriculum: Practice Requiring Further Support*

The use of dating violence and interpersonal relationships curriculum were among practices requiring further investigation. Washington & Kuffel (2002) conducted a controlled before and after study to evaluate a brief psychoeducational program implemented with dating college students. Results suggested generally favorable effects on changing attitudes about dating aggression on a short term basis, and an interaction with time was demonstrated; however, effects of the curriculum were not stable over time. Gardner et al. (2004) used a controlled before and after study to assess the effectiveness of Connections, a relationship and marriage education intervention. Findings only demonstrated effectiveness in their interactions with time, suggesting that the Connections group became more knowledgeable about the key content and concepts of the curriculum over time, whereas the control group showed no change. These results suggested that longer exposures to curriculum may lead to behaviour change. Among expert consensus evidence, Rickert et al. (2002) recommended efforts for primary prevention of dating violence should: (1) increase the use of screening tools that measure victimization as well as attitudes and contextual parameters that promote dating violence; (2) increase self-efficacy to negotiate safer sex; (3) reduce the use/abuse of alcohol and other drugs that facilitate risk taking behaviour and aggression which may lead to dating violence and (4) eliminate the influence of negative peer behaviour.

*Programs Building Teacher Efficacy and School Counselor Efficacy at Administering Curriculum: Practice Requiring Further Support*

One study on a school based education intervention targeting teachers was recommended for further investigation. Newman-Carson et al. (2004) evaluated Bullybusters, a psychoeducational intervention for middle school teachers. Scores on a teacher inventory of skills demonstrated that the intervention group had higher knowledge, higher personal teaching efficacy and higher teaching efficacy for problem child typologies. No significant differences were found between intervention and control groups on general teaching efficacy. Among studies targeting school counselors, D'Andrea et al. (2004) described the abilities of school based counselors to provide violence prevention assistance. A comprehensive approach to school-based violence prevention requires school counselors to: (1) identify students who are at risk for expressing heightened anger and inappropriate aggression and (2) work with these students in individual and small group counselling settings to help them learn new, and more effective ways of dealing with their anger, hostility, and aggression.

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*Counselling on Primary Prevention by Primary Care Providers: Practice Requiring Further Support*

Two studies targeting primary care physicians were recommended for further investigation for change in service provision. The Massachusetts Medical Society Violence Program was developed for physicians who wanted to incorporate violence prevention into primary care and urgent care practice (Sege et al., 2005). To date, process oriented evaluations only have been conducted and it has been suggested that the program is successful based on program demand. Rigorous evaluation methodology was not used. Knox et al. (2005) examined surveys on Connecting the Dots Training and Outreach Guide, used to introduce health professionals and students to the basic concepts of youth violence prevention, and to screening, counselling, and referral resources that they can incorporate into their own practices. After reading the guide, 86% indicated that they intended to modify their attitudes about youth violence as a result of the training and 92% indicated that they intended to modify their assessment practices as a result of the training. Among evidence ranked as a good practice point, primary care providers were highlighted for their abilities to assist in engaging in primary prevention interventions. Physicians and other public health professionals are well positioned to maximize youth well-being in school, home, and community settings (Browne et al., 2005).

*Firearm Restriction Strategies; Promising Practice*

Two studies on firearm restrictions were recommended as proposed methods to reduce the prevalence and incidence of violence. Powell et al (1996) examined firearm use among youth and recommended restriction of carrying firearms in public places, longer sentences, firearm detectors, public education, and the safe storage and use of firearms. Among firearm users, licensing, waiting periods the Brady Law (background checks with law enforcement before selling a firearm), disruption of illegal markets, technology to "individualized" firearms were recommended. Legal restrictions such as restrictive licensing, increased taxes, restriction of imports and domestic manufacturing only, were recommended. Freed (1998) suggested a product oriented focus on injury control efforts could assist in preventing violence, including: 1) reducing the number of guns in the environment by restrictive legislation, 2) reducing demand through gun buy-back programs, increasing product price or working in conjunction with physicians on safety counselling and 3) preventing unauthorized use of guns by childproofing and decreasing the lethality of guns.

**Table 8: Summary of Primary Prevention Intervention Results Targeting Adolescent Populations**

Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Spoth et al., 2000 Ahmann, 2001	Randomized controlled trial; Individual expert opinion; Non-formal consensus	Interventions targeting parent-adolescent interactions demonstrated effectiveness at decreasing aggression. It has been recommended that active communication strategies among parents would also be effective as a primary prevention strategy	Strongly Supported Practice	2
Flay et al., 2004 Brinson et al., 2004 Dunesbury et al., 1997	Individual expert opinion; Non-formal consensus	Use of intervention materials that are culturally and developmentally sensitive, including integration and social inclusion of marginalized youth by educating school and government officials to their needs	Good Practice	2

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Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Greene, 2005 Greene, 1998	Individual expert opinion	A participatory action approach where students engage in developing, implementing, and assessing circumscribed programs or strategies based on their identification of, and perspectives on, school problems including psychoeducational and/or social-skills training programs	Good Practice	2
Washington & Kueffell, 2001 Rickert et al., 2002 Gardner et al., 2004	Controlled before and after study	Investigation on dating violence, and interpersonal relationships curriculum efficacy. From the included studies, none were found to lead to significant differences between intervention and control groups.	Practice Requiring Further Support	1
Newman-Carson et al., 2004 D'Andrea, 2004	Controlled before and after study	Programs building teacher efficacy and school counselor efficacy at administration of primary prevention curriculum	Practice Requiring Further Support	3
Sege et al., 2005 Browne et al., 2005 Knox et al., 2005	Before and after study	Primary prevention of physical abuse counselling by primary care providers for adolescents and parents of adolescents	Practice Requiring Further Support	3
Powell et al., 1996 Freed, 1998	Individual expert opinion	Firearm restriction strategies (including product orientation approaches) were recommended for adolescents	Promising Practice	5

**4.1.3 Adulthood Primary Prevention Interventions**

*Safety and Health Enhancement Framework*

While some studies have suggested that primary care providers to identify domestic violence (Thomson et al., 2000; Ferris, 2004), there is evidence suggesting that this practice demonstrates inconclusive results in preventing violence (Ramsay et al., 2002; USPTF, 2004) and can possibility lead to more harm for women (Cory & Dechief, 2007).

The Safety and Health Enhancement (SHE) Framework is a model developed by the BC Women's & Children's Hospital Woman Abuse Prevention Program. The SHE Framework for Women Experiencing Abuse offers guidance to partners engaged in violence prevention in multiple sectors: including policy, research and practice (Cory & Dechief, 2007). The framework is designed in recognition of the complex nature of violence against women and the subsequent challenges in providing services and supports to victims. The SHE Framework consists of three components: two complementary conceptual models, an evidence paper and a toolkit, making it readily accessible to policy, research and professional audiences.

The SHE Toolkit involves a process taking between six months and one year to complete and with four major components: 1) Establishing the Safety and Health Enhancement Team, 2) Using the SHE Models and Evidence Paper to guide the identification of compounding harms relevant to the health setting under review, 3) Developing a Safety and Health Enhancement Action Plan for the team's health setting and 4) Implementing the Safety and Health Enhancement Action Plan in both the short- and long-term (Cory & Dechief, 2007).

The SHE Framework recognizes that violence and abuse is not simply a health issue - the broader sociopolitical context that places women at risk must be recognized and addressed by public policy interventions. Targeting the "higher level" policy, research and health practices

provides the foundation by which women are empowered and can be protected from exposure to violence. Concurrently, public health approaches can be used to address the access to health, health impacts and violence against women includes support for those women who have experienced violence. The model has been piloted in BC with very positive results.

*Empowerment and Life Skills Development for Women: Strongly Supported*

One systematic review on primary prevention of domestic abuse (which can include both physical and sexual violence) identified several recommendations for the primary prevention of physical abuse among women including: 1) educational and policy-related interventions to target children, youth and women to change social norms, 2) initiatives to improve the safety of women and children and 3) empowerment and life skills development for women with concrete tools to modify their social or economic circumstances, in order to enable women to become more independent by building self-esteem and increasing skills and resources (Hyman et al., 2000).

*Approaches Suggesting Firearm Restriction Control and Storage Practices: Practice Requiring Further Support*

One intervention designed to change behaviour was identified at the community level that required further investigation. Coyne–Besley et al. (2001) conducted a study of firearm storage practices assessed by survey and personal telephone interview. At follow up, there was a 29% increase in the number of guns locked in a compartment ( $p < 0.05$ ), a 72% increase in the usage of gun locks, and a 10% increase in locking ammunition in a separate location. Participants with children were more likely at baseline to store weapons unlocked and loaded (59% vs. 41%) ( $p < 0.05$ ), but were more likely after counselling to lock their weapons (58% vs. 44%) and remove guns from the home. Among adult populations, physicians were also identified as having the potential to assist in preventing firearm related injuries. To this end, the American College of Physicians (1995) recommended legislation to limit firearm availability, physician counselling, development of coalitions of health care professionals to address the issue and changes in gun design for safety. Two studies were recommended for further investigation. Ludwig & Cook (2000) evaluated the Brady Violence Prevention Handgun Act. The Brady Violence Prevention Handgun act involved a national system of background checks and waiting periods for gun purchase. The evaluation demonstrated no significant differences in homicide rates and suicide rates, except reduction in suicides among adults aged 55 years and older. Consistent with Ludwig & Cook (2000), Cole & Flanagan (1999) recommended graduated licensing style access to firearms, safer gun design and research on the risks and benefits of the mandatory reporting laws.

*Community Capacity Building for Primary Prevention: Promising Practice*

Evidence at the expert consensus level focused on developing community capacity building and networking. Bowen et al. (2004) suggested that communities can be engaged to prevent violence as it is identified and defined locally, and to link primary prevention across multiple forms of violence. Steps included creating safety, understanding violence, building community, promoting peace and building democracy and social justice. Sobol et al. (2004) also suggested building bonds or “bridges” to organizations for the purposes of obtaining or sharing resources to meet needs, and also to connect a community into a broader social fabric. Proposed methods to build bonds included: 1) using programs to act as “institutions of social integration” or provide mechanisms and opportunities for the people they serve to develop connections and linkages

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with mainstream social institutions, 2) programs should operate in ways that strengthen community ties and resources and 3) have programs establish appropriate levels of connections with the three spheres of social control—the private, parochial, and state controls, previously identified. A further study at the expert consensus level involved community capacity building, focused on community sustainability of programming (Faris, 2001). Creating sustainable community futures is to create “learning communities” in which both formal and non-formal lifelong learning of individuals and groups is systematically fostered in order to enable sustainable economic development, promote social inclusion and cohesion, and encourage civic and social participation.

*Interagency Coordination and Uniform Policies and Procedures; Promising Practice*

Shepard (2005) suggested that following the multiple reforms put into place over 20 years, it has been learned that comprehensive institutional reforms can be successful in reducing domestic violence. It is recommended that the next steps are coordinated community responses that include a host of agencies acting together to protect victims, and that hold offenders accountable. Initial studies of interagency coordination and of uniform policies and procedures demonstrated increased rates of identification and intervention (Shepard, 2005).

*Transnational and Cross Cultural Agenda in Abuse Prevention: Practice Requires Further Investigation: Promising Practice*

Among good practice points, the Family Violence Prevention Fund (2004) suggested a transnational and cross-cultural agenda of research in family violence. The proposed agenda would go beyond comparison of results obtained from studies conducted in separate nations or regions, and would develop measures and procedures that are sufficiently standardized across nations. To accomplish this, collaboration among researchers, as well as between researchers and practitioners, from different nations and cultures needs to take place, either through international research teams or international agencies.

**Table 9: Summary of Primary Prevention Intervention Results Targeting Adult Populations**

Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Hyman et al., 2000	Systematic review	Empowerment and life skills development for women with concrete tools to modify their social or economic circumstances and enable women to become more independent by building self-esteem and increasing skills and resources	Strongly Supported Practice	1
Cory & Dechief, 2007	Evidence Review; Non formal consensus Individual expert opinion	Safety and Health Enhancement (SHE Framework)	Good Practice	3
Coyne –Besley et al., 2001 American College of Physicians, 1995 Ludwig & Cook, 2000 Cole & Flanagan, 1999	Before and after study; Formal consensus	Approaches suggesting firearm restriction control and storage practices including physician counselling on the dangers from owning firearms	Practice Requiring Further Support	2

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Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Bowen et al., 2004 Sobol et al., 2004 Faris, 2001 Shepard, 2005	Non-formal consensus	Community capacity building for primary prevention including building bridges to organizations to promote shared resource use, creating and nurturing learning communities and co-ordinate community responses to the prevention of physical abuse and violence	Promising Practice	2
Shepard, 2005	Individual expert opinion	Inter-agency coordination and of uniform policies and procedures demonstrated increased rates of identification and intervention Development of primary prevention coordinating councils promoting the broad inclusion of participants	Promising Practice	5
Family Violence Prevention Fund, 2005	Non-formal consensus	Transnational and cross cultural agenda in abuse prevention	Promising Practice	4

**4.1.4 Older Adult Primary Prevention Interventions**

*Primary Prevention Approach in Long Term Care Facilities: Practice Requiring Further Support*

Wood & Stephens (2003) examined the decision-making abilities of residents in assisted living facilities regarding abuse and neglect. Elderly participants reported poor awareness of available elder support services but performed fairly well in the simple identification of abusive situations (54%), but had difficulty generating acceptable strategies for handling abusive situations. Approximately 25% had no suggestion, 50% reported they would consult a family member, and 25% had non-specific suggestions (e.g., talk to staff about problem). Evaluation of the Abuse Prevention in Long-Term Care Project (APLTC) which was administered across Canada to prevent of physical abuse and violence in long term care settings, suggested that several measures can be taken, including: 1) sensitizing persons (primarily older persons and those who had some form of association with them or with long-term care services) to the problem of abuse and neglect of older persons residing in institutional settings, 2) generating discussion that could lead to further understanding and a commitment to finding solutions, 3) raising awareness of the need for a supportive and respectful environment for seniors in institutional settings and ways to foster such an environment and 4) improving working conditions (Jamieson & Hart, 2004).

*Studies of the Contribution of Ageism to the Physical Abuse of Elderly: Promising Practice*

At the expert consensus level, Ward (2000) examined ageism and the abuse of older people and discussed what can be done to achieve quality of care for older people while dealing with obstacles such as poor collaboration between agencies, a lack of support for caregivers and the belief that the needs of older people are less important than those of the young.

*Strengthening Collaboration and Carer Support Networks: Promising Practice*

Kinnon (2001) suggested a community approach to prevent abuse of the elderly by strengthening or building informal support systems among family, community gatekeepers, neighbours and peer support. These networks are different from formal social service delivery systems because they rely on people’s natural helping tendencies and feelings for one another. Older people are

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more likely to turn to these informal networks for help because they are close by and trusted. In some rural and remote communities, few, if any, formal services exist. Informal support systems are the key to the detection, intervention and prevention of physical abuse and neglect. Effective multidisciplinary working is of vital importance, better legal provisions are required and there is a need for a greater understanding of the problem of ageism. Facilitating autonomy and decision making in the care of older people is also a priority as is involving and supporting caregivers and valuing the contribution that they and the non-statutory agencies have to offer (Ward, 2000).

*Primary Care Providers Educating Older Adults: Practice Requiring Further Support*

Levine (2003) and Kurrle (2004) suggested that primary care providers are best positioned to educate elderly patients on physical abuse prevention. Caution should be taken when interpreting these results as universal screening and detection practices have been suggested to compound harms (Cory & Dechief, 2007).

**Table 10: Summary of Primary Prevention Intervention Results Targeting Older Adult Populations**

Author(s), Year	Study Design(s)	Results	Evidence Ranking	RQ
Wood & Stephen, 2003 Jamieson & Hart, 2004	Individual expert opinion; Non-formal consensus	Primary prevention approach to physical abuse especially among elderly in long term care facilities, including sensitizing elders to the problem of abuse	Practice Requiring Further Support	1,6
Ward, 2000	Individual expert opinion	Studies of ageism and its contributions to the physical abuse of elderly	Promising Practice	4
Ward, 2000 Kinnon, 2001	Individual expert opinion	Strengthening collaboration and caregiver support networks including multidisciplinary collaborations, strengthening and building informal support networks, including family, community gatekeepers, neighbours and peer support	Promising Practice	4,2
Levine, 2003 Kurrle, 2004	Individual expert opinion	Primary care providers educating elderly patients on physical abuse prevention	Practice Requires Further Support	3

## **5.0 RELEVANCE OF EVIDENCE TO HEALTH AUTHORITIES**

The focus of this review was the overarching research question: how can primary prevention interventions in the general population lead to a change in norms and a reduction in physical violence and abuse? Based on the results of comprehensive literature search and assessment of primary prevention interventions across the life course, opportunities for health authority involvement and/or leadership are summarized. Areas of relevance have been divided into several domains including programming activities, role of primary care providers, surveillance activities, support for review of secondary and tertiary prevention of physical violence and abuse and collaboration and coordination of primary prevention activities.

### **5.1 Programming Activities**

Health authorities should support the development and evaluation of programs across the life course for the primary prevention of physical violence and abuse. From the results of this review, it is apparent that the quality of evidence for interventions is concentrated around expert level consensus and good practice points.

Programming activities are required in several areas. Studies of the impact of early childhood visitation and training skills for parenting on the health outcomes of children over time are required. Longitudinal, randomized, controlled studies would provide the best source of evidence. While primary prevention approaches should address the needs of the general population, considerations should be given on how to protect marginalized populations (teenage parents, parents with mental health risk factors, First Nations parents and parents from impoverished communities) from exposure to violence. Where alternate service providers are not available, educators and primary care providers can potentially play a role in administering education programming to these populations.

Where interventions are not possible during early childhood, interventions during adolescence should be conducted. Health authorities could invest in programming activities taking place in school settings. For instance, Kendell et al. (2003) recommended that health authorities re-commit to support Healthy Schools initiatives by providing infrastructure and expertise (staff) at the provincial and regional levels to support implementation of comprehensive school health promotion and set up an ongoing student health monitoring process to evaluate progress over time. Additionally, school based prevention programming should be developmentally and culturally sensitive, and be conducted only with rigorously tested materials and rigorous evaluation. In this review, assessment of primary studies among youth in this review has also reached similar conclusions as the CDC funded Urban Networks to Increase Thriving Youth (UNITY) through violence prevention program. UNITY recommends universal school-based programming as a strategy to reduce violence in urban settings (Prothrow-Smith, 2007). From recent informal literature, health authorities may want to consider an advocacy role for the introduction of anti-bullying policies where they currently do not exist, as well promoting and supporting further research and evaluation into the area.

Programs at all points in the lifespan should address gender based assumptions that perpetuate physical violence and abuse against women. Gender based analysis challenges the assumption

that everyone is affected in the same way by policies, programs legislation and research or that health issues such as causes, effects and service delivery are unaffected by gender (J. Cory, personal communication, July 24, 2007). For programming activities to prevent violence against women, it is imperative that interventions at all levels of the Spectrum of Prevention are developed and used.

## **5.2 Role of Primary Care Providers**

Health authorities could support the addition of prevention education counselling for physical abuse and violence among primary care providers in clinical practice however, care must be taken to ensure that the appropriate patient populations are being counseled. For violence against women, primary care provider screening has been shown to be inconclusive (Ramsay et al., 2002; USPSTF, 2004), and potentially harmful to women's safety (Cory & Dechief, 2007). One means of providing support is to include the primary prevention of physical abuse and violence in continued medical education programs including discussion on compounding harms and safety enhancement. Opportunities exist to incorporate the primary prevention of physical violence and abuse into the work of public health professionals and home care workers in the form of a Safety and Health Enhancement Toolkit (Cory & Dechief, 2007).

## **5.3 Surveillance Activities**

Reliable estimates of the prevalence of physical violence and abuse in a population are almost non-existent. School based surveillance studies and/or primary care and public health/home care surveillance would provide the most relevant information to the primary prevention of physical violence and abuse. Prevailing issues for surveillance programs are feasibility and sustainability which need to be addressed provincially to ensure a common approach and definitions across health authorities. To determine the specifics of how surveillance can be coordinated, dialogue and discussions regarding a pilot project among health authorities is recommended. Systemic and geographic challenges to physical violence and abuse surveillance should also be assessed.

## **5.4 Secondary and Tertiary Prevention**

While recommendations for primary prevention programming activities have been developed as a result of this review, secondary and tertiary prevention best practices are still uncertain. A large proportion of prevention programming activities are dedicated to high risk populations. To determine whether those efforts are being expended in the most beneficial manner, a review of the evidence base surrounding secondary and tertiary prevention is required. A change in norms that perpetuate physical violence and abuse cannot be initiated without identifying the strengths and gaps of each level of prevention.

## **5.5 Collaboration and Coordination**

Health authorities could support collaborative efforts to address the primary prevention of physical violence and abuse. Consistent with other domains of public health, primary prevention efforts for physical violence and abuse require coordination for encompassing change. Currently, organizations to prevent physical violence and abuse operate individually and often seek to reduce physical abuse locally. Development of a network of community practitioners and advocates, policy makers and researchers for the primary prevention of physical abuse is highly

recommended. At the community level, 55 communities in BC already have sophisticated community response towards violence prevention in place (T. Porteous, personal communication, July 16, 2007). The development of a provincial or regional coordinator position whose role it is working to develop the awareness of the programs, services, and activities currently in place in the area of primary prevention of physical violence and abuse (and/or health promotion) activities is highly recommended. A regional or provincial coordinator will help ensure understanding the work of anti-violence groups exists rather than duplication of efforts (T. Porteous, personal communication, July 16, 2007). In other areas of public health (i.e. chronic disease prevention) investment in facilitators and on the ground leadership has been recommended as a vital ingredient to lead to change (Krueger & Associates, 2005).

Funding and infrastructure for primary prevention of physical violence and abuse conferences and seminars within the health authorities would also be helpful in determining which organizations are acting as key players. Understanding the mandates of violence and abuse prevention organizations and their fit with the provincial injury prevention agenda is a step in coordinating primary prevention efforts. To ensure that primary prevention efforts are all working towards the ultimate goal of change in norms, organizations need to be made aware of this movement. Using the Ontario Public Health Association as an example, a coordinated and comprehensive local approach including regional representatives, other related ministry officials, public health units, provincial associations and other key partners is also important (OPHA, 2003). Resources required for the primary prevention of physical violence and abuse include populations include education (i.e., cross disciplinary training on violence prevention), appropriate infrastructure including support for staffing, ongoing coordination and collaboration and improved data systems to facilitate data sharing (Prevention Institute, 2006).

Novel methods to conduct training of health professionals may hold potential to disseminate violence prevention evidence and programming information. An exploratory study of the implementation of the Partnerships for Preventing Violence (PPV) curriculum, an innovative six-part satellite training series on preventing youth violence demonstrated promising practice evidence (Hertz et al., 2008). In a two part community mobilization approach, the program goal was to increase violence prevention knowledge and skills among diverse professionals (in health, justice and education) by highlighting successful violence prevention programs and developing local leadership and community capacity building to prevent youth violence (Hertz et al., 2008). The training was found to reach a large audience with violence prevention content and skills (over 13,000 professionals), successfully communicate effective violence prevention approaches to a multidisciplinary audience and local leaders to administer face to face sessions and empower communities (Hertz et al., 2008).

## **5.6 Knowledge Gaps**

Literature on the primary prevention of physical abuse among adult and older adult populations and high quality primary prevention studies were lacking. Few studies met criteria for strongly supported practices (SIGN Grade A) and good practices (SIGN Grade B). While primary prevention is considered to be an effective means to effect change in a population, primary prevention efforts are minimally studied. Secondary prevention refers to prevention of physical abuse among populations that have been exposed to physical violence and abuse (assessed as

high risk). Within the physical abuse prevention literature, secondary prevention is dominant. The rationale for secondary prevention programs is that high risk populations that have been exposed to abuse are more likely to perpetuate violent behaviour. Despite the dominance of secondary prevention intervention activities found in the literature, there is mounting good evidence of what works for the primary prevention of physical abuse.

Changing organization practices were not well reported in the literature, suggesting that a strong evaluation component should be included by health authorities when implementing prevention programs. An organizational empowerment framework may be a helpful lens for health authorities in structuring their program evaluations. Organizational empowerment refers to organizational efforts that increase individuals' perceptions of power, control, and ability to influence the larger system of which they are a part (Griffith et al., 2007). A case study of organizational empowerment found intraorganizational infrastructure, interorganizational membership practices and extraorganizational research and training to be facilitators of community mobilization to prevent youth violence (Griffith et al., 2007).

Primary prevention initiatives involving regulations, laws, decrees and institutional policies and practices largely focused on firearms restrictions to prevention violence. These findings suggested that at the policy level, gaps exist in current public health policies that are being implemented for the primary prevention of physical violence and abuse. It is possible that policies may be driven by secondary prevention and the criminal justice reform system. It is also possible that the lack of published research is the result of publication bias towards publishing research and practice literature over policy literature. It is recommended that a review of violence related legislation is conducted to determine whether public health regulations and statutes exist that can be evaluated as primary prevention interventions.

## **5.7 Next Steps**

The results of this review will be used to develop a model program paper for the core functions framework for public health. Once a model core program paper has been developed, a performance improvement system in place and performance targets will be established for health authorities.

## **6.0 SUPPLEMENTARY EVIDENCE**

This section supplements the information in this evidence review. The original evidence review was examined by staff from the Ministry of Healthy Living and Sport and the health authorities, and preliminary feedback suggested that the issues of violence against women and child maltreatment prevention, including neglect, exposure to domestic violence, physical abuse, emotional maltreatment and sexual abuse, could be strengthened.

### **6.1 Strategies for Violence Prevention**

The ministry reviewed other major documents and research to be used as additional supplemental resources regarding strategies for violence prevention. The Women's Healthy Living Secretariat recommends the use of the World Health Organization's (WHO) document entitled *Primary Prevention of Intimate-Partner Violence and Sexual Violence: Background Paper for WHO Expert Meeting, May 2-3, 2007*, (Harvey, Garcia-Moreno, & Butchart, 2007) as the most comprehensive document and highly useful for supplemental material.

#### 6.1.1 Summary of *Primary Prevention of Intimate-Partner Violence and Sexual Violence*

Population-based studies have proven that the effects of intimate partner and sexual violence critically influence long-term health and well-being of members in society, specifically women and girls. However, population-based studies (such as mortality and hospitalization data) fall short of providing an analysis of the context of the abuse or situation surrounding physical violence. These forms of violence impact physical, mental, reproductive and sexual health and have consequences such as physical injuries, post-traumatic stress disorder, depression, suicide attempts, substance abuse, unwanted pregnancy, gynaecological disorders, sexually transmitted infections, increased HIV/AIDS risk, and others health risks. As a result, a gender-based analysis provides methods to adequately address the complicated nature of intimate partner violence and sexual violence.

#### *Primary Prevention Framework*

The WHO document explains that a primary prevention framework is highly beneficial for addressing physical violence in BC. The public health approach to the primary prevention of intimate partner violence and sexual violence is grounded in four stages:

1. Define intimate partner violence and sexual violence and document their scope and magnitude.
2. Identify factors that increase risk of intimate partner violence and sexual violence, or have a protective effect.
3. Design prevention strategies using knowledge of risk and protective factors and grounded in social science theory for modification of those factors. Evaluate the impact of any strategy.
4. Implement proven and promising strategies on a larger scale in various settings and continue to monitor their impact.

### *Primary Prevention Approaches*

The WHO recommends the use of seven broad categories of approaches when addressing intimate-partner violence and sexual violence:

1. Early-childhood and family-based approaches.
2. School-based approaches.
3. Interventions to reduce alcohol and substance misuse.
4. Public information and awareness campaigns.
5. Community-based approaches.
6. Structural and policy approaches:
  - Fostering gender equality and women's empowerment.
  - Legal reform and strengthening criminal justice responses.
  - Integrating intimate-partner and sexual violence prevention into other program areas.
  - Improving the safety of physical environments.
7. Working with men and boys.

### *Conclusion*

The WHO encourages broader research and strategies for measurable results in addressing violence against women. By critically understanding the health impacts on women, including planning services that are trauma-informed, and working towards violence prevention, communities will see a change in sexual violence and intimate-partner violence. The implementation of evidence-based and evidence-generating approaches will be most successful through a strong gender-based analysis and the use of primary prevention approaches. The other suggested approaches will need further analysis and strategies for policy and practice in order for successful results to be met. In addition, a broader analysis focusing on marginalized populations requires further attention such as Aboriginal populations, Lesbian/Gay/Bisexual/Transgender/ Transsexual communities, and immigrant and refugee populations.

#### 6.1.2 Selected Annotated Bibliography

1. Bopp, M., Bopp, J., & Lane, P. (2003). *Aboriginal Domestic Violence in Canada*. Ottawa, ON: Aboriginal Healing Foundation. Retrieved from <http://www.fourworlds.ca/pdfs/DomesticViolence.pdf>.

*Aboriginal Domestic Violence in Canada* presents useful information to assist a more comprehensive analysis of violence prevention for Aboriginal communities.

2. Graffunder, C.M., Noonan, R.K., Cox, P., & Wheaton, J. (2004). Through a public lens. Preventing violence against women: An update from the U.S. Centers for Disease Control and Prevention. *Journal of Women's Health, 13*(1), 5–14.

In this paper, Graffunder et al. highlight the current efforts of the Division of Violence Prevention, housed within the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control, to use a public health approach and evidence-based strategies to the prevention of one key hidden health hazard: violence against women.

3. World Health Organization. (2005). WHO Multi-country study on women's health and domestic violence against women. Geneva: Author. Retrieved from [http://www.who.int/gender/violence/who\\_multicountry\\_study/summary\\_report/summary\\_report\\_English2.pdf](http://www.who.int/gender/violence/who_multicountry_study/summary_report/summary_report_English2.pdf).

This WHO study pushes national authorities to design policies and programmes that begin to address violence against women and prevention strategies. The WHO encourages the health sector to take a proactive role in responding to the needs of the many women living in violent relationships.

4. Johnson, H. (2007, March). Preventing violence against women: Progress and challenges. *IPC Review*, 1, 69–88. Retrieved from <http://www.socialsciences.uottawa.ca/ipc/pdf/kr3-johnson.pdf>.

Holly Johnson encourages institutions to develop comprehensive strategies that incorporate social institutions, cultural norms, attitudinal change at the individual level, supports for victims, and a gender perspective.

5. Guo, B. & Harstall, C. (2008, January). *Spousal violence against women: Preventing recurrence*. Alberta: Institute of Health Economics. January 2008.

Bing Guo and Christa Harstall assess research evidence on the inter-rater reliability and predictive validity of various risk assessment instruments in predicting male-to-female spousal violence recidivism and lethality in those males who had contact with the police system.

## **6.2 Preventing Child Maltreatment and Abuse**

The ministry reviewed the literature for supplemental best practice evidence regarding strategies for preventing child maltreatment and abuse. The ministry recommends the use of the 2006 publication by the World Health Organization, entitled *Preventing Child Maltreatment: A Guide to Taking Action and Generating Evidence*, to supplement the existing violence prevention evidence paper.

### 6.2.1 Summary of *Preventing Child Maltreatment: A Guide to Taking Action and Generating Evidence*

Child maltreatment causes a broad range of adverse physical and mental health outcomes with costs to both the child and society, over the course of a victim's life.

To prevent child maltreatment, the following strategies are recommended:

1. Address the underlying causes and risk factors and strengthen protective factors.
2. Link prevention programs with other community programs that reach out to “high-risk” or marginalized groups.

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3. Address and reduce poverty and economic inequalities.
4. Provide programs that encourage women to seek proper prenatal and postnatal care.
5. Promote early and secure infant-parent attachment.

The report states that if interventions are “targeted to at-risk individuals and groups, then rigorous criteria and screening procedures to identify those at risk must be developed.”

*Strategies*

*Preventing Child Maltreatment: A Guide to Taking Action and Generating Evidence* indicates that there is strong evidence that programs focusing on parenting improvement and support are effective in preventing child maltreatment. The WHO report indicates that successful home visitation and parent education programs include the following elements:

1. Focus on families in greater need of services including families with:
  - low-birth-weight and preterm infants;
  - children with chronic illness and disabilities;
  - low-income, unmarried teenage mothers;
  - a history of substance misuse;
2. Begin interventions in pregnancy and continue to at least the second year, or as long as the fifth year, of the child’s life;
3. Be flexible, so that the duration and frequency of visits and the types of services provided can be adjusted to a family’s need and level of risk;
4. Actively promote positive physical and mental health-related behaviours and specific qualities of infant care-giving;
5. Address a range of issues specific to the needs of the family - as opposed to focusing on a single issue;
6. Include measures to reduce stress within the family, by improving the social and physical environments;
7. Use nurses or trained semi-professionals (WHO & International Society for Prevention of Child Abuse and Neglect, 2006).

The WHO supports the use of parent training programmes to educate parents about child development and to improve parenting skills to manage their children’s behaviour.

Successful training programmes for parents should contain the following elements:

1. Focus on the parents of pre-adolescent children aged 3–12 years.
2. Test parent recall and comprehension of the components of training materials.
3. Include step-by-step teaching of child management skills, where each newly learned skill forms the basis for the next skill.

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#### 6.2.2 Additional Evidence on Strategies to Prevent Child Maltreatment

To the degree possible, evidence in support of a particular strategy has been assigned according to the following:

*Type 1* – at least one good systematic review (including at least one randomized controlled trial)  
*Type 2* – at least one good randomized controlled trial  
*Type 3* – an interventional study without randomization  
*Type 4* – an observational study  
*Type 5* – expert opinion: influential reports and studies, national guidelines/policies

#### *Home Visitation*

- “Home visitation programs are of proven effectiveness in preventing child maltreatment. A recent systematic review of mainly American outcome evaluation studies showed, on average, a 40% reduction in child maltreatment by parents and other family members participating in home visitation programs.” (Type 1). (Centers for Disease Control and Prevention [CDC], 2003).
- “Home visitation programs also appeared promising in preventing youth violence.” (Type 1). (CDC, 2003)
- “On the basis of strong evidence of effectiveness, early childhood home visitation is recommended for prevention of child abuse and neglect in families at risk for maltreatment, including disadvantaged populations and families with low-birth weight infants.” (Type 1). (CDC, 2003)
- Compared with controls, the median effect size of home visitation programs was a reduction of approximately 40% in child abuse or neglect. (Type 1). (CDC, 2003)
- Programs delivered by professional visitors (nurses or mental health workers [with either post-high school education or experience in child development]) yielded more beneficial effects than did those delivered by paraprofessionals. Programs delivered by nurses demonstrated a median reduction in child abuse of 48.7%; programs delivered by mental health workers demonstrated a median reduction in child abuse of 44.5%. (CDC, 2003)
- Evidence from the single study of the effects of home visitation on partner violence indicated that home visitation might not prevent child maltreatment in the presence of ongoing partner violence”. (CDC, 2003)
- “Home visitation is most likely to succeed when combined with a range of prevention and intervention services in communities, such as high-quality child care.” (Eckenrode, 2004).

#### *Training Programs for Parents*

- Parenting support programs and parenting skills programs are both recommended for at risk families by the BC Family Violence Prevention Working Group (n.d.).

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Recommended programs include Success by Six, Children First, Roots of Empathy, the Family Resources Program, Nurse Family Partnership, FRIENDS for Life program (BC), ASAP – A School-based Anti-Violence Prevention Program (Ontario), Incredible Years: Parent, Teacher and Child Training Series (US), Promoting Alternative Thinking Strategies (US).

- The Triple P Parenting Program has also been shown as effective (Eckenrode, 2004).

#### *Training Health Care Professionals*

- “Health professionals providing direct service to children and families can play several important roles in the prevention of child abuse and neglect. Two primary prevention roles (vs. medical management of the consequences of maltreatment or secondary prevention) for primary-care health-providers are (1) careful assessment of the home environment to identify modifiable and non-modifiable risk factors for maltreatment, and (2) health professionals’ awareness of triggering situations that can contribute to maltreatment incidents, such as crying and toilet-training. In paediatric settings, supplemental services can be delivered by child-development and parent-support specialists.” This is the approach taken by the Healthy Steps for Young Children program, supported in part by the American Academy of Pediatrics. (Type 5) (WHO & International Society for Prevention of Child Abuse and Neglect, 2006).

#### *Screening for Risk of Child Maltreatment*

- A Manitoba provincial program called Families First (previously called BabyFirst) screens all newborns and their families, to identify those babies at greatest risk of being maltreated (Manitoba Centre for Health Policy, 2007).
- Public Health Nurses in Manitoba interview all families of newborns using Families First screening form. If families score above a threshold on an initial “screening” and a second, more detailed screening, they are then offered a home visitor (Manitoba Centre for Health Policy, 2007).

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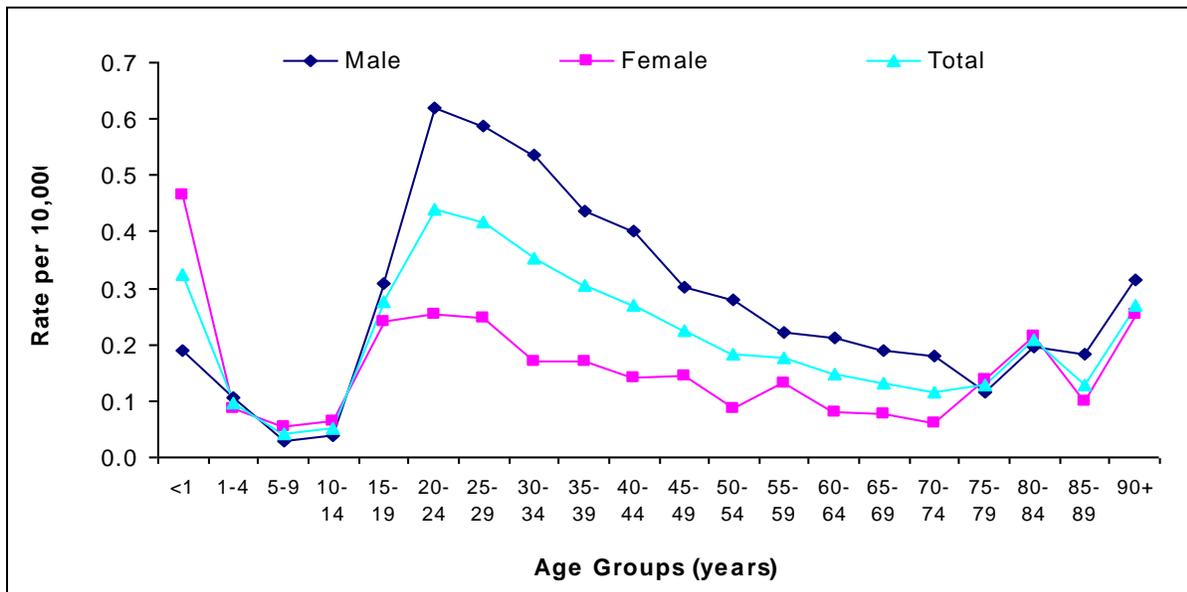
**APPENDIX 1: MORTALITY AND HOSPITALIZATION DATA**

**Mortality**

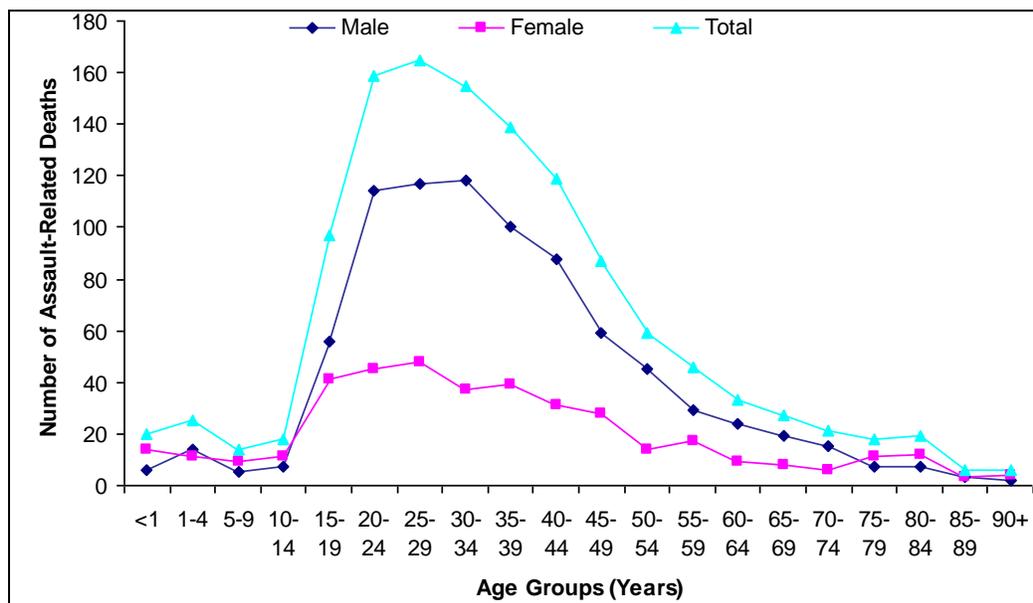
Age & Sex

In 2003, assault-related deaths in BC accounted for 8.8% (39/444) of all deaths in Canada (Statistics Canada, 2006). From 1990-2003, 1,223 assault-related deaths (0.2 per 10,000) occurred in British Columbia. Among both males and females, the total number of assault-related deaths peaked among persons aged 20-24 years (159 deaths, 0.4 deaths per 10,000). Males demonstrated higher assault-related mortality rates than females at a ratio of approximately 3:1, peaking among those aged 20-24 years (114 deaths, 0.6 deaths per 10,000); 25-29 years (117 deaths, 0.6 deaths per 10,000) and aged 30-34 years (118 deaths, 0.5 deaths per 10,000). A steady decline in assault-related deaths was demonstrated among both sexes aged 20-74 years. Among older adults aged 75-90 years, assault-related death rates increased slightly among persons aged 80-84 years, declined among persons aged 85-89 years and increased again at age 90 years and older. Mortality rates for assault-related deaths and numbers of assault-related deaths by age are provided in Figures A1 and A2.

**Figure A1. Assault-related Mortality Rates per 10,000 by Sex and Age, BC, 1990-2003**



**Figure A2. Number of Assault-related Deaths by Sex and Age, BC, 1990-2003**



Time Trends (1990-2003)

Over time, assault-related mortality rates per year in British Columbia demonstrated mixed trends. While small peaks were demonstrated in overall rates in 1992, the overall trend for both sexes is a large decline in assault-related deaths. Among females, increases and corresponding declines every 2 years were demonstrated from 1990-1994. Declines in overall assault-related mortality rates and numbers of assault-related deaths in BC from 1990-2003 reflect national declines in assault related mortality over time. A recent study exploring crime patterns in Canada attempted to elucidate which mechanisms were responsible for declines in homicide rates and found that different types of crimes (including assaults) are influenced by demographic, social and economic factors (Bunge et al., 2005).

Sprott and Cesaroni (2002) estimated that 14% of the decline in Canadian homicide rates between 1974 and 1999 was attributed to changes in age composition of the population. Reductions in the size of a crime prone cohort are one way in which the demographic composition of a population may affect the crime rate as the percentage of adults aged 25 to 34 in the population has also declined since 1990 leading to fewer potential offenders in the population in the 1990s (Bunge et al., 2005).

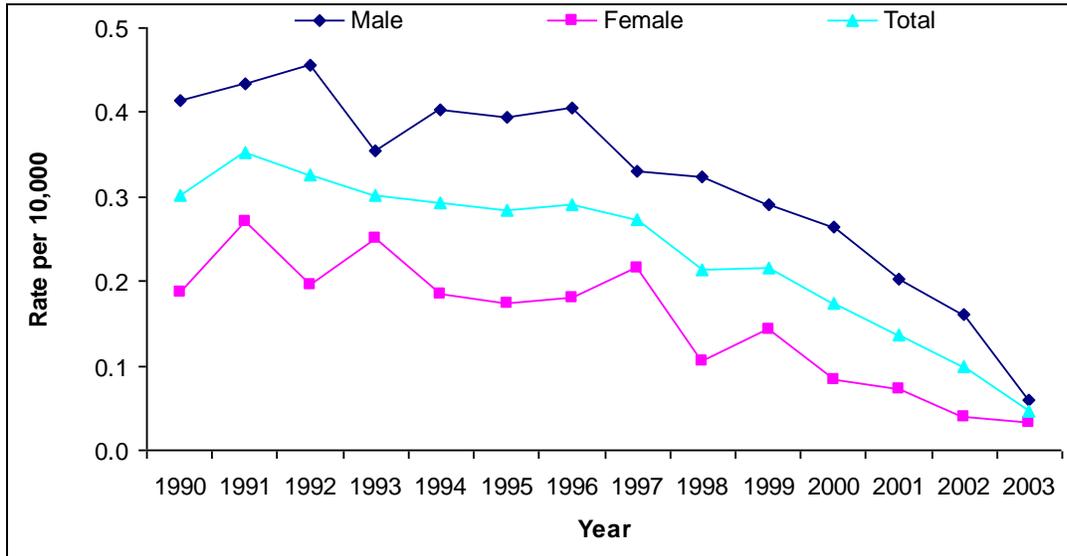
A time series analysis also demonstrated that decreased alcohol consumption and decreased unemployment were correlated with downward shifts in homicide rates,<sup>2</sup> (Bunge et al., 2005). Per capita levels of alcohol consumption show overall increases in Canada until the mid-1970s, stabilizing until the early 1980s and a decline until the mid-1990s and stabilized thereafter (Bunge et al., 2005). Unemployment rates were relatively high in the 1980s and again in the early 1990s and dropped significantly, as did violent crime rates.

<sup>2</sup> Demographic, social and economic factors included: changes in age distribution of the underlying population, alcohol consumption, unemployment, inflation, drug markets, firearm legislation, and changes to law enforcement practices.

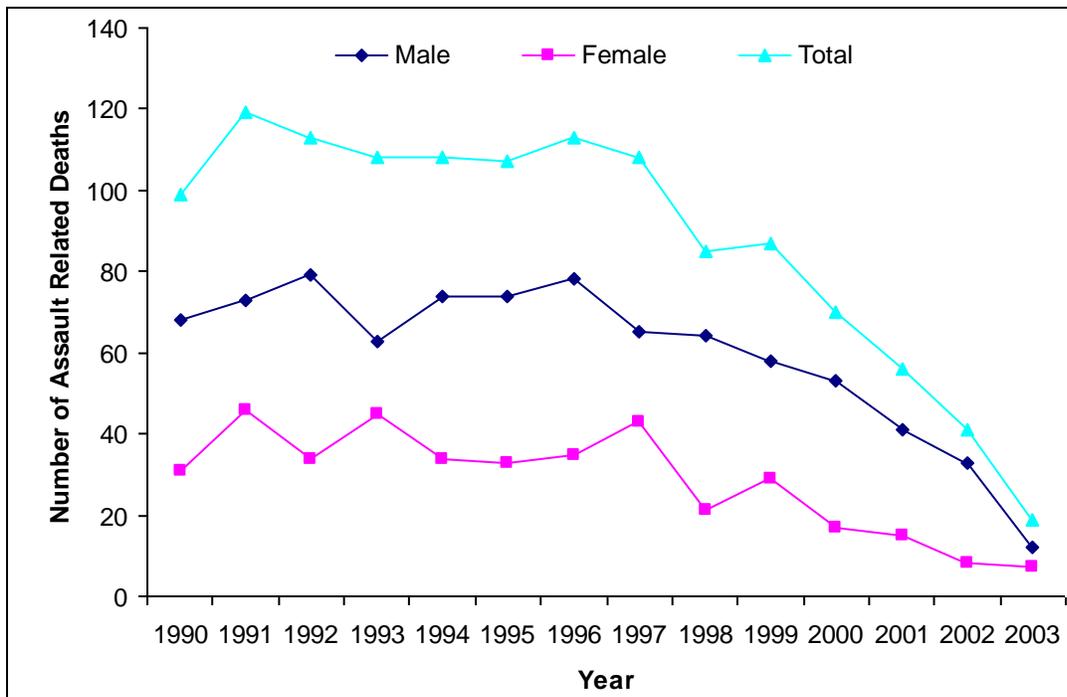
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The relationship between demographic, social and economic factors and assault-related mortality is complex. Other factors such as changes to firearm legislation, policing and law enforcement practices could also potentially explain the declines in homicide as well; therefore declines in assault-related mortality over time should be interpreted with caution. Time trends for mortality rates and number of assault-related deaths are provided in Figures A3 and A4.

**Figure A3. Time Trend for Assault-related Mortality Rates per 10,000 by Sex and Year, BC, 1990-2003**



**Figure A4. Time Trend for Number of Assault-related Deaths per 10,000 by Sex and Year, BC, 1990-2003**

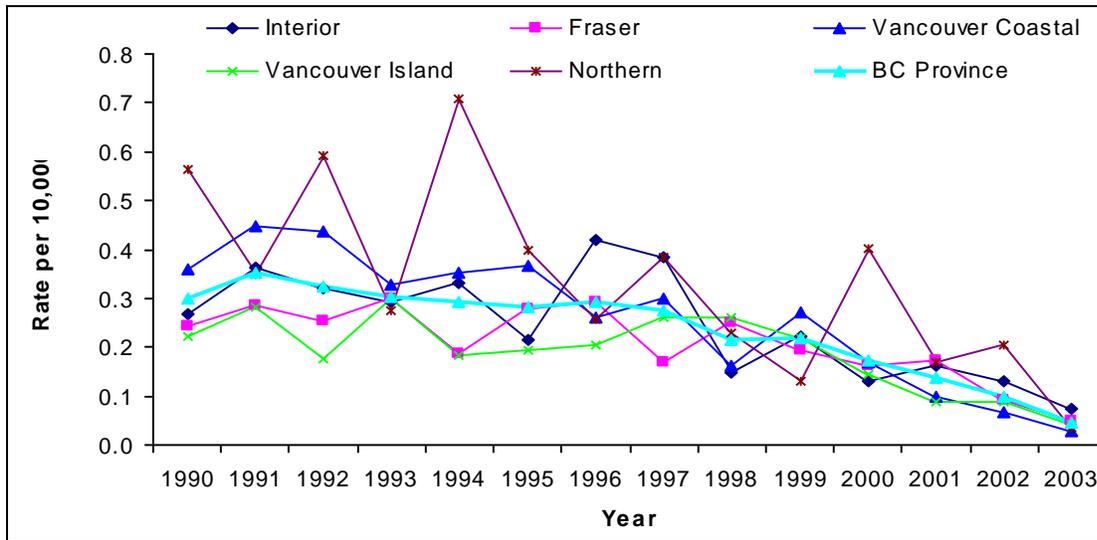


Assault-related mortality rates by health authorities also demonstrated an overall decline from 1990-2003. The Northern Health Authority demonstrated increases and decreases approximately

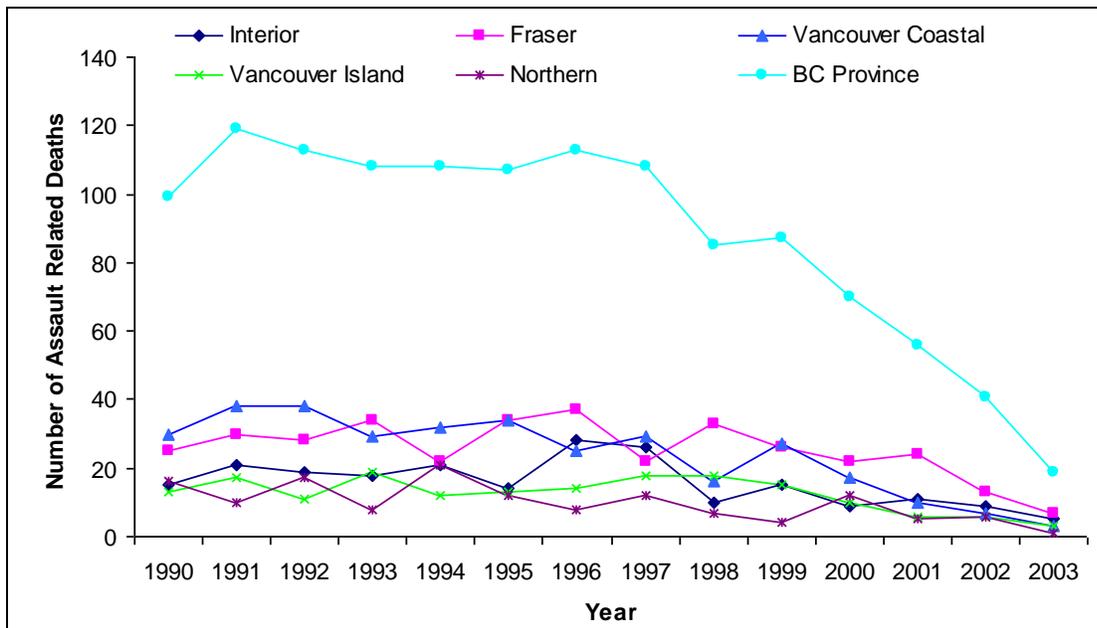
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every 2 years. The Vancouver Coastal Health Authority also demonstrated slightly higher assault-related mortality rates from 1990-1996, but stabilized and demonstrated similar trends to the overall assault-related mortality in BC. Rates for assault-related mortality and numbers of assault-related deaths by regional health authorities and BC overall from 1990 -2003 are provided in Figures A5 and A6.

**Figure A5. Assault-related Mortality Rates per 10,000 by Regional Health Authority and Year, BC, 1990-2003**



**Figure A6. Number of Assault-related Deaths by Regional Health Authority and Year, BC, 1990-2003**

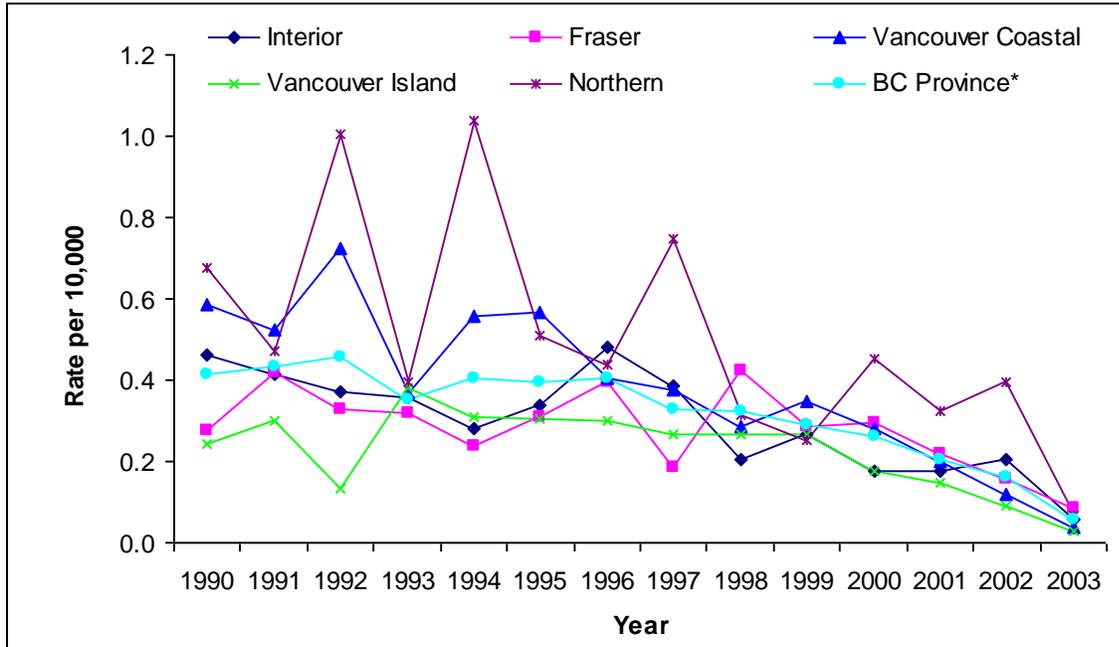


Among males, assault-related mortality rates were similar to trends for the overall rates with an overall decline demonstrated from 1990-2003. Assault-related mortality rates in the Northern Health Authority demonstrated increases and declines every 2 years but appeared to converge

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with the rates of other regional health authorities by 2003. Rates for assault-related mortality among males by regional health authorities and BC overall from 1990-2003 are provided in Figure A7.

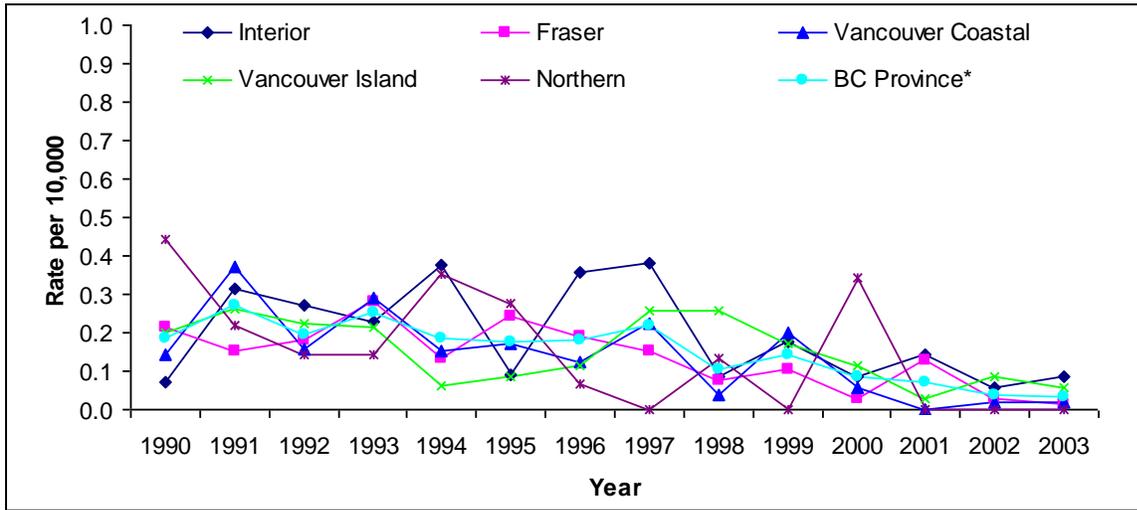
**Figure A7. Assault-related Mortality Rates per 10,000 Among Males by Regional Health Authority and Year, BC, 1990-2003**



Among females, assault-related mortality rates differed depending on regional health authority. In the Interior Health Region, females demonstrated mixed trends from 1990-1997, and then a decline in assault related mortality rates from 1998-2003. The Northern Health Authority demonstrated increases and declines in assault-related mortality approximately every 2 years, peaking in 2000. Rates for assault-related mortality among females by regional health authorities and BC overall from 1990-2003 are provided in Figure A8.

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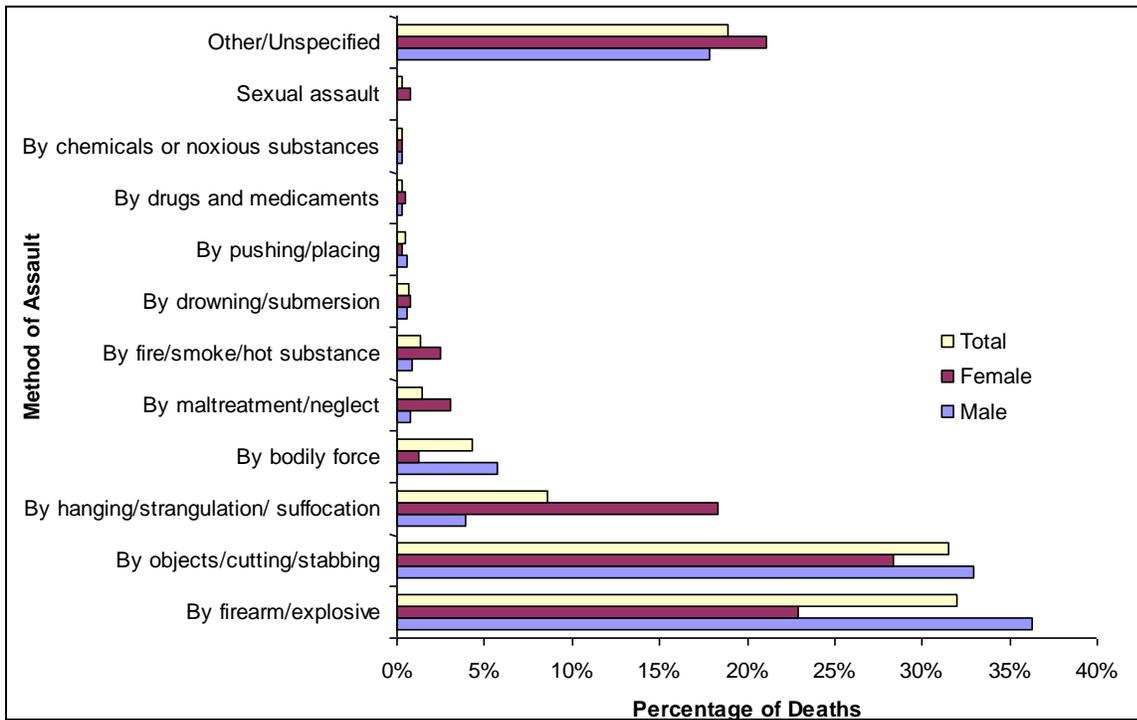
**Figure A8. Assault-related Mortality Rates per 10,000 Among Females by Regional Health Authority and Year, BC, 1990-2003**



**Method and Type of Injury**

Firearms and explosives were the methods used in 32% (394/1,233) of all assault-related deaths, followed by 31.5% (388/1,233) using cutting and stabbing and 18.9% (233/1,233) using other and unspecified methods. Among females, strangulation was also highly represented as a method of assault-related deaths (18.5% of all female deaths, 73/398). Percentage of assault-related deaths by method and sex are provided in Figure A9.

**Figure A9. Percentage of Assault-related Deaths by Method and Sex, BC, 1990-2003**



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By age, the percentage of deaths by firearms and explosives were highest among persons aged 15-24 years (35.2%, 139/395 deaths) and persons aged 45-64 years (34.7%, 137/395 deaths). Percentage of deaths by cutting and stabbing were highest among persons aged 25-44 years (35.8%, 139/388 deaths). Among people aged 15 years and younger, maltreatment (23.4%, 4/18 deaths) and other/unspecified causes (23.4%, 55/233 deaths) demonstrated highest percentages of death. Percentage of assault-related deaths by method and age group are provided in Table A1.

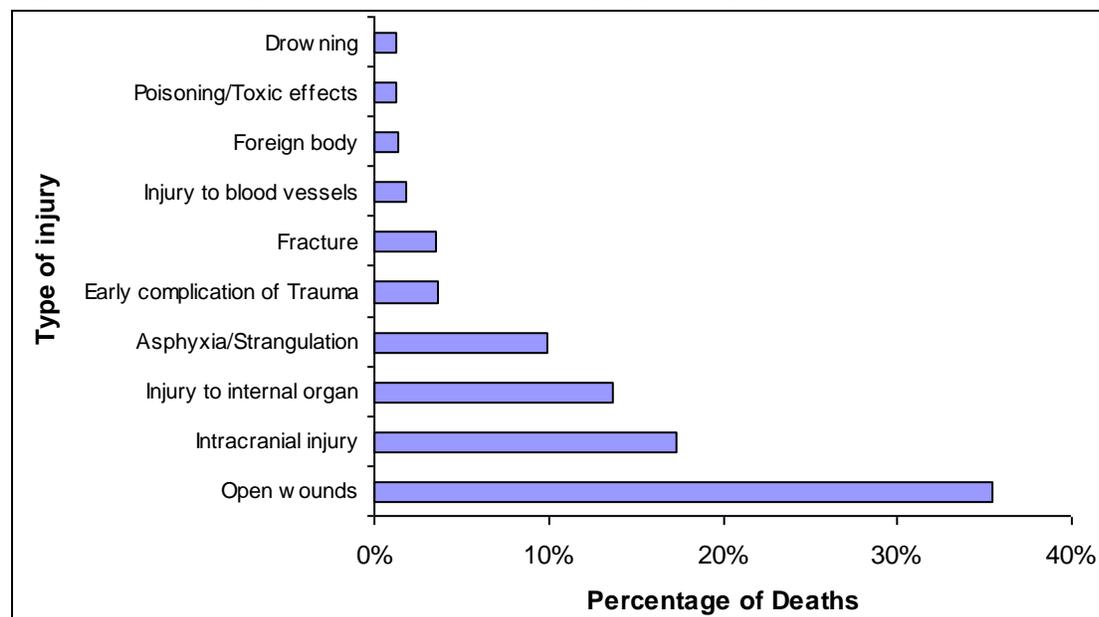
**Table A1. Percentage of Assault-related Deaths by Method and Age Group, BC, 1990-2003**

Method	<15	15-24	25-44	45-64	65-74	75+	Total
Other/Unspecified	23.4%	15.2%	17.1%	17.8%	29.2%	46.9%	18.9%
Sexual assault	*		*	*			*
By chemicals or noxious substances	*		*				*
By drugs and medicaments			*	*	*		*
By pushing/placing	0.0%	0.8%	0.7%	0.0%	0.0%	0.0%	0.5%
By drowning/submersion	1.3%	1.6%	0.2%	0.4%	2.1%	0.0%	0.6%
By fire/smoke/hot substance	5.2%	1.2%	1.0%	0.4%	4.2%	2.0%	1.4%
By maltreatment/neglect	23.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%
By bodily force	0.0%	5.5%	3.6%	6.2%	4.2%	4.1%	4.3%
By hanging/strangulation/ suffocation	16.9%	11.3%	6.2%	8.4%	8.3%	10.2%	8.6%
By objects/cutting/stabbing	9.1%	29.3%	35.8%	31.1%	31.3%	28.6%	31.5%
By firearm/explosive	16.9%	35.2%	34.8%	34.7%	16.7%	8.2%	32.0%

\*Total number of deaths was less than 5

The leading type of injury was open wounds which accounted for 35.4% (437/1,233) of all assault-related deaths. Intracranial injuries accounted for 17.3% (213/1,233) of all assault-related deaths followed by injury to internal organ which accounted for 13.7% (169/1233). The percentage of assault-related deaths by type of injury is provided in Figure 10.

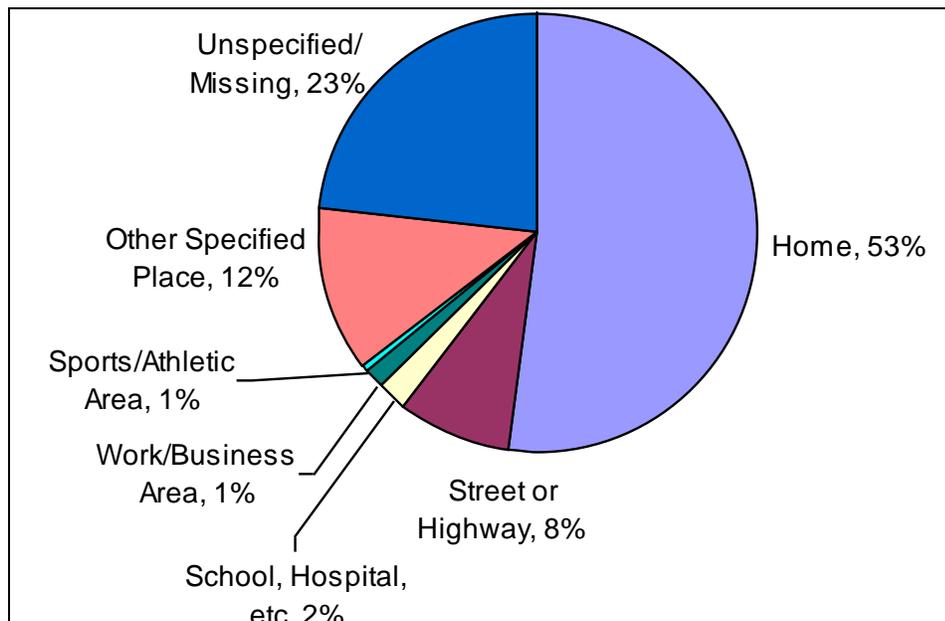
**Figure A10. Percentage of Assault-related Deaths by Type of Injury, BC, 1990-2003**



Place of Occurrence

The place of occurrence for assault-related deaths was in the home for 51.9% (626/1,206) of cases, followed by unspecified or missing for 23.2% (280/1,206), other specified place for 12% (149/1,206) and street or highway for 8.5% (102/1,206). The percentage of assault-related deaths by place of occurrence is provided in Figure A11.

**Figure A11. Percentage of Assault-related Deaths by Place of Occurrence, BC, 1990-2003**



Summary of Assault-Related Mortality Findings

- Males demonstrated higher assault-related deaths when compared to females at a ratio of 3:1.
- Among males and females, assault-related deaths peaked among those aged 20-24 years.
- Over time, assault-related mortality rates in BC declined from 1990-2003 among both males and females which is consistent with national declines.
- Declines from 1990-2003 both provincially and nationally are attributed to demographic, social and economic factors.
- The Northern Health Authority demonstrated increases and decreases in assault-related mortality rates suggesting that further surveillance is required in this region to determine what mechanisms are responsible for these patterns.
- The leading method of injury for assault-related deaths among males was firearms and explosives (37%) which was experienced among males aged 15-64 years.
- The leading method of injury for assault-related deaths among females was cutting and stabbing (27%) which was experienced by females aged 15-75+ years.

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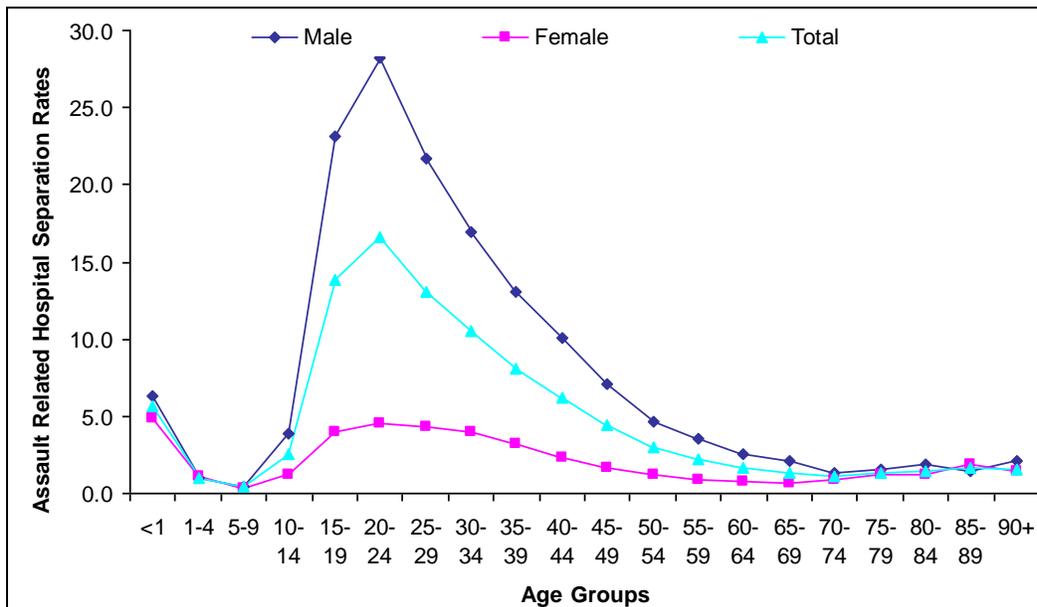
- The leading type of injury leading to assault-related death was open wounds, followed by intracranial injury and injury to internal organs.
- Home was the place of occurrence for 53% of assault-related deaths, suggesting that domestic violence should be evaluated as a potential precipitating factor for assault-related deaths.

**Assault-Related Hospital Separations**

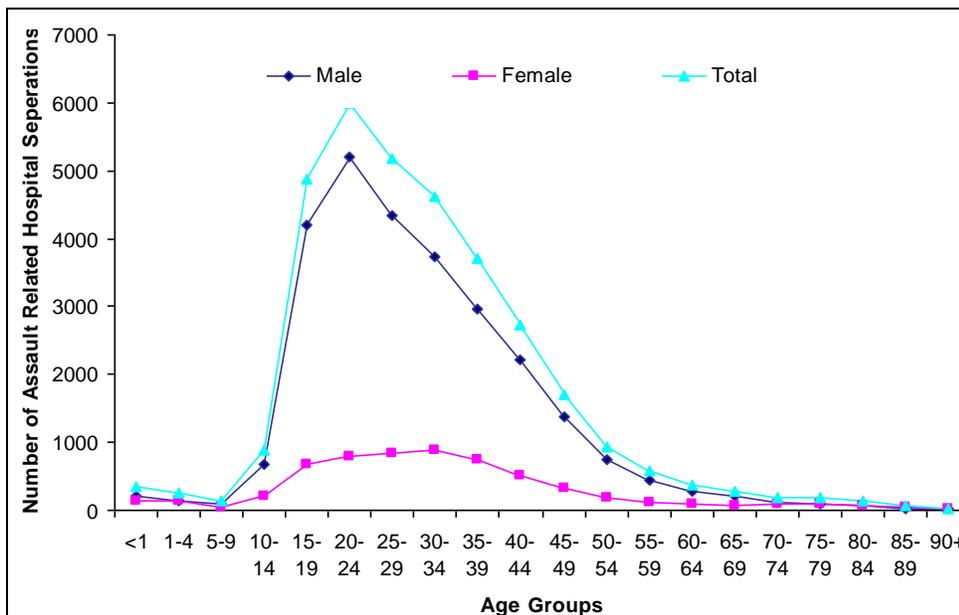
Age & Sex

From 1990-2003, 33,269 assault-related hospital separations (6.2 per 10,000) occurred in British Columbia. Compared to the number of assault-related deaths, there were 30.1 assault-related hospitalizations for every death. Males accounted for 81.6% (27,159/33,269) of all hospital separations while females accounted for 18.4% (6,110/33,269). Rates per 10,000 were higher among males (10.2 per 10,000) than females (2.3 per 10,000). The total number of assault-related hospital separations peaked among males aged 20-24 years (5,203; 28.3 per 10,000) and females aged 20-24 years (880; 4.0 per 10,000). A steady decline was demonstrated among both sexes from ages 25-69 years. Assault-related hospital separation rates and numbers of assault hospital separations by age are provided in Figures A12 and A13.

**Figure A12. Assault-related Hospital Separation Rates per 10,000, by Sex and Age, BC, 1990 – 2003**



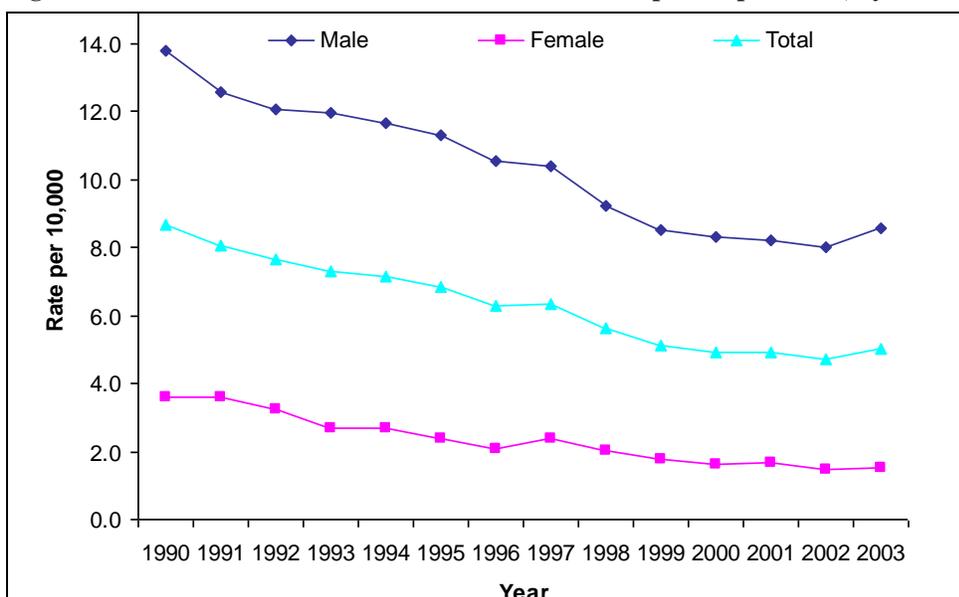
**Figure A13. Number of Assault-related Hospital Separations, by Sex and Age, BC, 1990-2003**



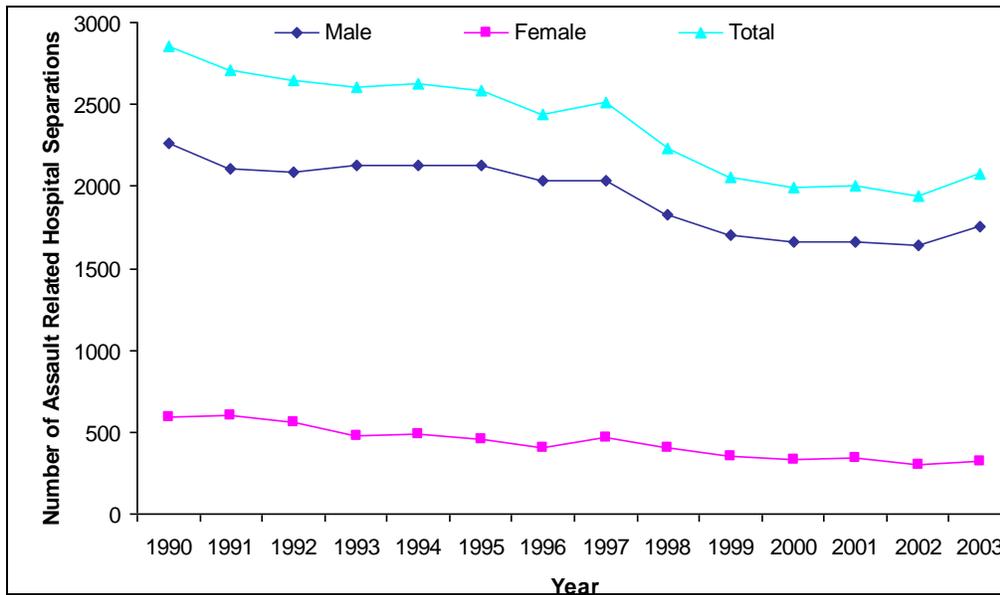
Time Trends (1990-2003)

Between 1990 and 2003, annual assault-related hospital separation rates in British Columbia demonstrated declining trends. While small peaks were demonstrated in overall rates in 1997, both sexes demonstrated a decline in assault-related hospital separation rates. Among females, time trends demonstrated consistent declines with the exception of a small increase in 1997. Rates for hospital separations for males were consistently higher than overall rates, and rates for females were consistently lower than overall rates. Assault-related hospital separation rates and numbers of assault-related hospital separations by sex and year are provided in Figures A14 and A15.

**Figure A14. Time Trend for Rates of Assault-related Hospital Separations, by Sex and Year, BC, 1990-2003**

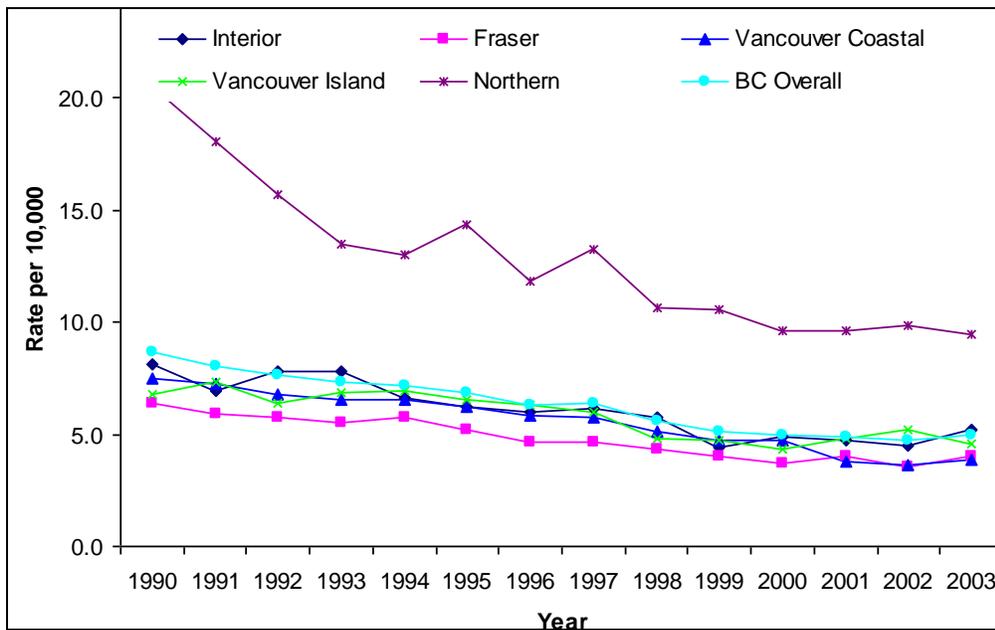


**Figure A15. Time Trend for Number of Hospital Separations by Assaults, by Sex and Year, BC, 1990-2003**



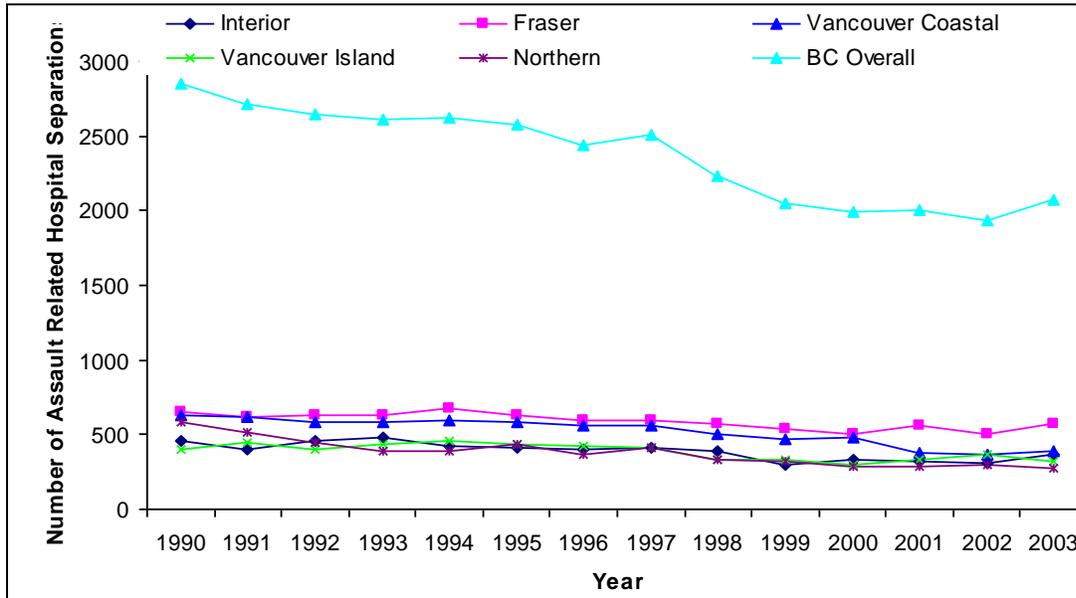
Assault-related hospital separation rates by regional health authorities also demonstrated a small overall decline from 1990-2003. The Northern Health Authority demonstrated high hospital separation rates in 1990 that declined to 1993, increased in 1995, 1997 and then stabilized between 2000 -2003. Rates for assault-related hospital separations and numbers of assault-related hospital separations by regional health authority and BC overall are provided in Figures A16 and A17.

**Figure A16. Assault-related Hospital Separation Rates per 10,000 by Regional Health Authority and Year, BC, 1990-2003**



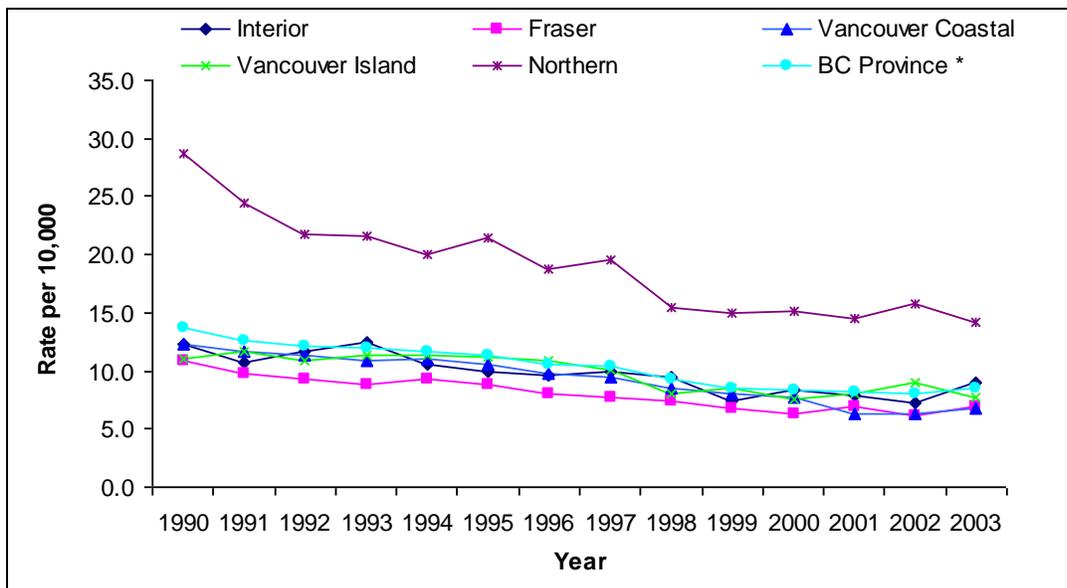
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**Figure A17. Number of Assault-related Hospital Separations by Regional Health Authority and Year, BC, 1990-2003**



Assault-related hospital separation rates were higher among males in the Northern Health Authority from 1990-2003; however, an overall decline was demonstrated. The Northern Health Authority demonstrated a small increase in assault-related hospital separations among males in 2002. All other regional health authorities demonstrated similar assault-related hospital separation rates when compared to BC overall rates over time. Rates for assault-related hospital separations among males by regional health authority and BC overall are provided in Figure A18.

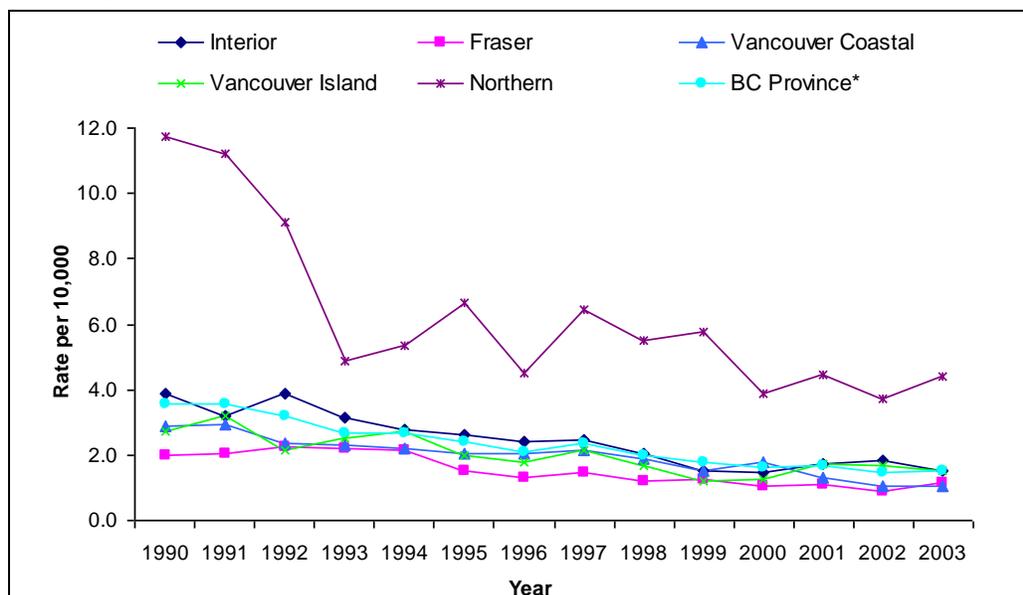
**Figure A18. Assault-related Hospital Separation Rates per 10,000 among Males by Regional Health Authority and Year, BC, 1990-2003**



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Assault-related hospital separation rates demonstrated variable trends among females in the Northern Health Authority from 1990-2003. In the Northern Health Authority, between 1990-1993, a decline in assault-related hospital separation rates was demonstrated among females, followed by increases in 1994 – 1995, 1997-1998, 2000 – 2001 and declines in 1996, 2000 and 2002. All other regional health authorities demonstrated similar assault-related hospital separation rates over time. Rates for assault-related hospital separations among females by regional health authority and BC overall are provided in Figure A19.

**Figure A19. Assault-related Hospital Separation Rates per 10,000 among females by Regional Health Authority and Year, BC, 1990-2003**

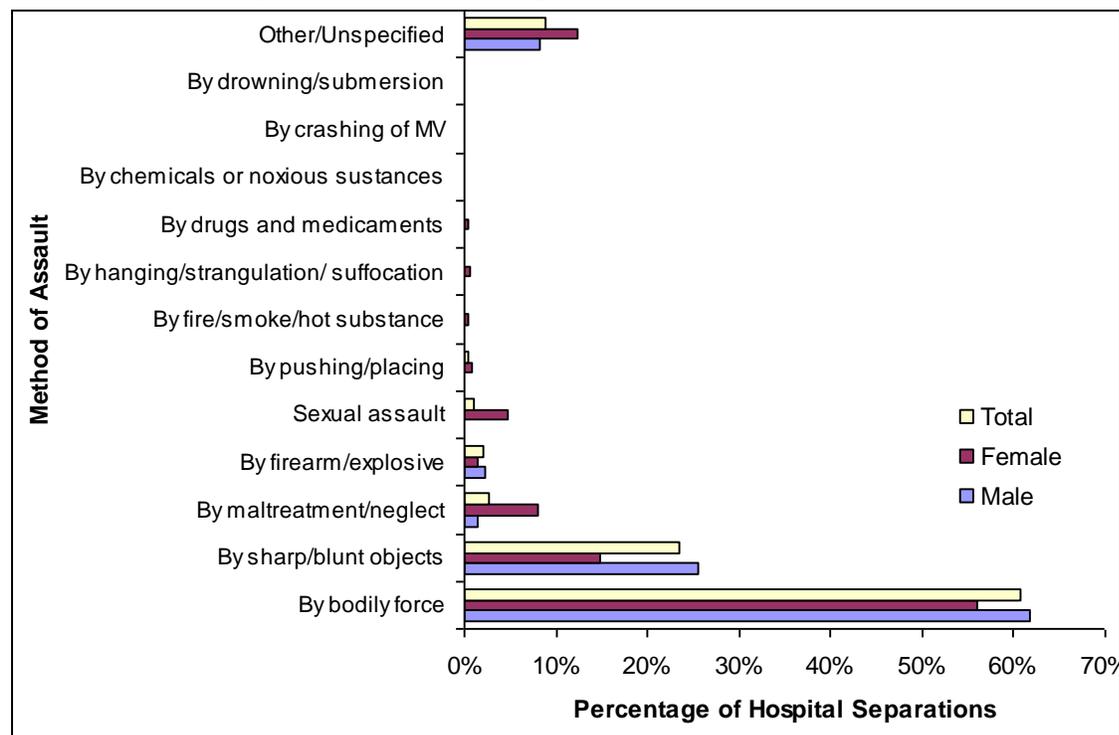


**Method and Type of Injury**

Bodily force<sup>3</sup> was the leading method of assault-related hospital separation (60.1%: 20,183/33,269) cases, followed by assault with sharp and blunt objects (23.5%; 7,826/33,269) and other and unspecified methods of assault (8.9%: 233/1,233). Among females, maltreatment and neglect were also highly represented as a method of assault leading to hospital separations (10.5%; 692/6610). The percentage of assault-related hospital separations by method and sex is provided in Figure A20.

<sup>3</sup> Bodily force consists of any act leading to injury of the physical body. ICD-10 coding practices for bodily injury exclude strangulation, submersion, use of weapon and sexual assault by bodily force.

**Figure A20. Percentage of Assault-related Hospital Separations by Method of Assault and Sex, BC, 1990-2003**



By age-group, the percentage of hospital separations resulting from bodily force was highest among persons aged 15-24 years (65.9%) followed by persons aged 25-44 years (60.0%). The percentage of hospital separations by sharp and blunt objects was highest among persons aged 25-44 years (26.1%) followed by persons aged 45-64 years (25.0%). Among persons aged 15 years and younger, maltreatment was the cause of 41.2% of hospital separations. The percentages of assault-related hospital separations by method and age group are provided in Table A2.

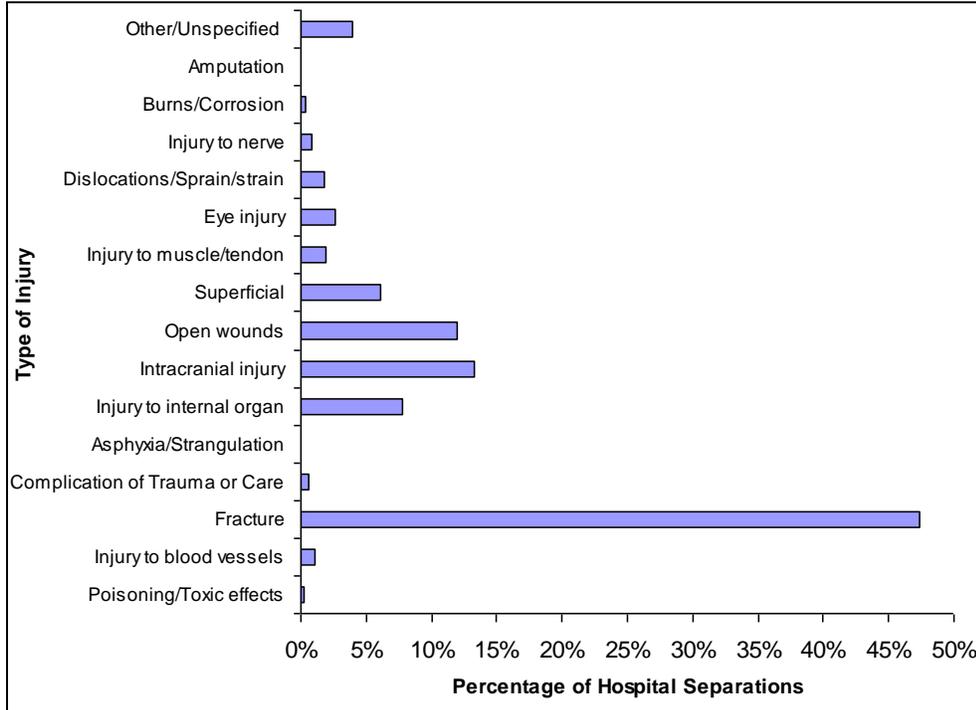
**Table A2. Percentages of Assault-related Hospital Separations by Method and Age Group, BC, 1990-2003**

Method	<15	15-24	25-44	45-64	65-74	75+	Total
By bodily force	42.5%	65.9%	60.0%	58.6%	55.0%	47.6%	60.7%
By sharp/blunt objects	5.0%	22.6%	26.1%	25.0%	19.2%	11.7%	23.5%
By maltreatment/neglect	41.2%	0.5%	0.5%	0.9%	2.7%	8.2%	2.7%
By firearm/explosive	0.9%	2.1%	2.2%	2.1%	1.3%	1.1%	2.1%
Sexual assault	2.9%	1.1%	0.8%	0.5%	0.8%	1.6%	0.9%
By pushing/placing	0.2%	0.2%	0.4%	0.7%	0.8%	0.2%	0.4%
By fire/smoke/hot substance	0.7%	0.1%	0.3%	0.2%	0.4%	0.2%	0.2%
By hanging/strangulation	0.1%	0.2%	0.2%	0.3%	0.4%	1.8%	0.2%
By drugs and medicaments	0.7%	0.1%	0.2%	0.3%	0.4%	0.9%	0.2%
By crashing of MV	0.0%	0.0%	0.0%	0.2%	0.4%	0.2%	0.1%
By drowning/submersion	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other/Unspecified	5.5%	7.1%	9.3%	11.3%	18.4%	26.3%	8.9%

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The leading type of injury due to assault was fractures which accounted for 47.4% (15,449/33,269) of all assault-related hospital separations. Intracranial Injuries accounted for 13.3% (4,320/33,269) of assault-related hospital separations, followed by open wounds (12.0%; 3,893/33,269). The percentage of assault-related hospital separations by type of injury is provided in Figure A21.

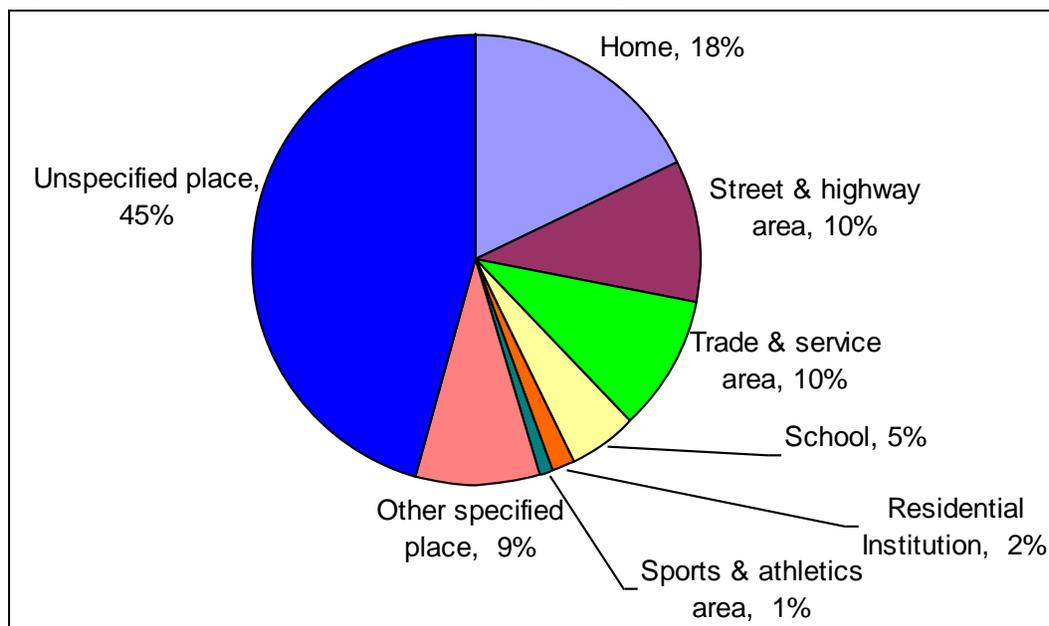
**Figure A21. Percentage of Assault-related Hospital Separations by Type of Injury, BC, 1990-2003**



Place of Occurrence

The place of occurrence resulting in assault-related hospital separations was unspecified place for 45.6% (2,649/5,806), followed by home (18%; 1,047/5,806), street & highway area (10.0%; 580/5,806) and trade and service area (9.8%; 570/5,806). The percentage of assault-related hospital separations by place of occurrence is provided in Figure A22.

**Figure A22. Percentage of Assault-related Hospital Separations by Place of Occurrence, BC, 1990-2003**



**Summary of Assault-Related Hospital Separation Findings**

- Males accounted for a higher number of assault-related hospital separations when compared to females at a ratio of approximately 5:1
- Hospital separations peaked among persons aged 15 – 24 years and declined among persons aged 25- 69 years
- Between 1990 and 2003, a similar pattern of declines for assault-related hospital separation rates in BC occurred among both males and females
- The leading cause of injury for assault-related hospital separations among both males and females was bodily force (60.7%)
- The leading type of injury leading to assault-related hospital separation was fractures, followed by intracranial injury and open wounds
- Unspecified place of occurrence accounted for 45% of assault-related hospital separations, indicated additional surveillance is required to determine the location of injury occurrence

## **APPENDIX 2: RESEARCH QUESTION FORMULATION**

Research questions were developed using the Spectrum of Prevention Tool as a framework. To develop the research questions; the **PICO** procedure has been used.

Four parts to question are:

- Practitioners target of intervention
  - Intervention
  - Comparator
  - Outcome
- a) Target of Intervention
- General population
  - Specific Period in Life Course: Childhood, Adolescence, Adulthood, Older Adult
  - Any reimbursement scheme, academic status and country
- b) Intervention
- Primary Prevention
  - Physical Violence
  - Physical Abuse
- c) Comparator
- No intervention
- d) Outcome
- Change in knowledge
  - Change in behaviour
  - Change in abuse-related exposure
  - Change in service provision
  - Change in policy
  - Change in a surrogate measure
  - Incidence of physical abuse
  - Prevalence of physical abuse

## **Research Questions**

### **Overarching Research Question:**

*How can primary prevention interventions in the general population ages 6-84 years lead to a change in norms and a reduction in physical violence and abuse?*

To address the overarching research question, the following questions have been developed:

1. Which primary prevention interventions in the general population ages 6-84 years exist at the individual level demonstrating change in knowledge, change in behaviour and change in exposure to physical violence and abuse when compared to no intervention?
2. Which primary prevention education interventions exist at the community level in the general population ages 0-84 years demonstrating change in knowledge, change in behaviour and change in exposure to physical violence and abuse when compared to no intervention?
3. Which primary prevention interventions exist demonstrating change in knowledge, change in behaviour and changes in service provision among service providers when compared to no intervention?
4. Which coalitions and networks exist which have demonstrated success in primary prevention of physical abuse?
5. Which regulations, laws, decrees, institutional policies, records and practices exist that have led to a reduction in reported incidence and prevalence of physical violence and abuse compared to none?
6. Which primary prevention organizational interventions exist that have demonstrated effectiveness in changing knowledge, behaviour, abuse-related exposure and subsequent policy regarding the prevention of physical violence and abuse at municipal (or county, provincial or state) or federal levels?

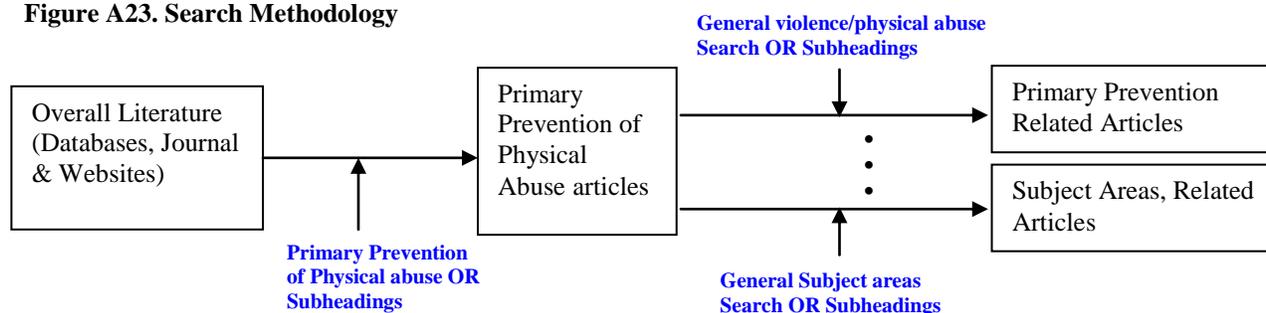
**APPENDIX 3: LITERATURE SEARCH**

**Search Methodology**

A literature search was conducted to identify articles published from 1995-2005 (an extension of date of search was made until March 2006) across the broad domain of primary prevention of physical abuse and the specific criteria selected for inclusion in the study. Specifically, the search attempted to identify particular subject areas (i.e. Domestic Violence) existing articles addressing primary prevention intervention with restriction with respect to language but not geographic location.

PubMed, a health-related database with international coverage from the National Library of Medicine, was searched first, followed by a selection of appropriate grey literature sources. Key concepts were searched using MeSH (medical subject headings) and text words. Other databases and grey literature sources searched are outlined below (Table 1, 2 and 3) using terminology appropriate to each resource but based on terminology used for the PubMed search. Figure 1 illustrates the general methodology applied to the overall body of literature that was searched.

**Figure A23. Search Methodology**



**Table A3: Search Terminology/Strategy for Core Search**

<i>Bibliographic databases searched included Medline, Embase, PsycInfo and several specialized databases summarized in the grey literature resources. Example subject headings below were used in Medline. Equivalent database-specific subject headings were used in the other databases. Subject headings were exploded where possible to include narrower terms in the search. Textwords were used to search titles, abstracts, and full-text as available.</i>
<i>Medical Subject Headings (MeSH) and textwords (keywords) identifying primary mental health care:</i>
<b>MeSH:</b> Primary Prevention; Public Health Services; Violence <b>Textwords:</b> primary prevention of physical abuse OR reducing violence;
<i>Medical Subject Headings (MeSH) and textwords (keywords) identifying systematic reviews, review literature and Clinical Trials:</i>
<b>MeSH:</b> Review Literature OR Practice Guidelines <b>Textwords:</b> review OR review literature OR systematic review* OR best practice* OR clinical trials* <b>Publication Type:</b> practice guideline OR guideline
<i>Medical Subject Headings (MeSH) and textwords (keywords) identifying evidence, effectiveness and evaluation of interventions and studies:</i>
<b>MeSH:</b> Evidence Based Medicine <b>Textwords:</b> evidence OR effective* OR evaluat* OR assess* OR efficacy
<b>Limits applied:</b>
<b>Language:</b> English <b>Date of Publication:</b> varied by database

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**Table A4: Search Terminology/Strategy**

<p><i>Pubmed was searched using the following terminology. Medical subject headings (MeSH) were exploded where possible to include narrower terms in the search. Textwords were used to search titles and abstracts. In process records were searched using textwords only, as indexing (MeSH) is not yet applied to these records.</i></p>
<p><i>Medical Subject Headings (MeSH) and textwords (keywords) identifying primary prevention of physical abuse:</i></p> <p><b>Note:</b> To focus the search for only the most relevant material and to reduce duplication with searches conducted previously for this study, primary prevention of physical abuse literature was searched for using MeSH only except for “in process” records, which were searched using textwords.  <b>MeSH:</b> (Violence OR Child Abuse, Elder OR Women OR Domestic violence) AND Primary prevention  <b>Textwords:</b> primary prevention of physical abuse OR reducing violence; physical abuse</p>
<p><i>Medical Subject Headings (MeSH) and textwords (keywords) identifying the subject areas:</i></p> <p><b>Violence (Physical abuse):</b>          ("Violence"[MeSH] OR ("Violence/classification"[MeSH] OR "Violence/diagnosis"[MeSH] OR "Violence/epidemiology"[MeSH] OR "Violence/ethics"[MeSH] OR "Violence/ethnology"[MeSH] OR "Violence/history"[MeSH] OR "Violence/legislation and jurisprudence"[MeSH] OR "Violence/prevention and control"[MeSH] OR "Violence/psychology"[MeSH] OR "Violence/statistics and numerical data"[MeSH] OR "Violence/trends"[MeSH]) AND ("Primary Prevention"[MeSH] OR ("Primary Prevention/classification"[MeSH] OR "Primary Prevention/economics"[MeSH] OR "Primary Prevention/education"[MeSH] OR "Primary Prevention/ethics"[MeSH] OR "Primary Prevention/history"[MeSH] OR "Primary Prevention/instrumentation"[MeSH] OR "Primary Prevention/legislation and jurisprudence"[MeSH] OR "Primary Prevention/manpower"[MeSH] OR "Primary Prevention/methods"[MeSH] OR "Primary Prevention/organization and administration"[MeSH] OR "Primary Prevention/standards"[MeSH] OR "Primary Prevention/statistics and numerical data"[MeSH] OR "Primary Prevention/utilization"[MeSH]))</p> <p><b>Education/Social/Behaviors:</b>          ("Social Problems/classification"[MeSH] OR "Social Problems/education"[MeSH] OR "Social Problems/ethics"[MeSH] OR "Social Problems/ethnology"[MeSH] OR "Social Problems/history"[MeSH] OR "Social Problems/legislation and jurisprudence"[MeSH] OR "Social Problems/prevention and control"[MeSH] OR "Social Problems/psychology"[MeSH] OR "Social Problems/statistics and numerical data"[MeSH] OR "Social Problems/trends"[MeSH]) AND ("Dangerous Behavior/complications"[MeSH] OR "Dangerous Behavior/prevention and control"[MeSH] OR "Dangerous Behavior/psychology"[MeSH] OR "Dangerous Behavior/therapy"[MeSH] OR "Behavior/education"[MeSH] OR "Behavior/ethics"[MeSH] OR "Behavior/history"[MeSH] OR "Behavior/physiology"[MeSH] OR "Behavior/therapy"[MeSH]) AND ("Violence"[MeSH] OR "Domestic Violence"[MeSH]) OR ("Battered Women"[MeSH] OR "Spouse Abuse"[MeSH] OR ("Elder Abuse"[MeSH] OR "Child Abuse"[MeSH]))</p> <p><b>Domestic Violence:</b>          ("Domestic Violence"[MeSH]) OR ("Domestic Violence/classification"[MeSH] OR "Domestic Violence/economics"[MeSH] OR "Domestic Violence/ethics"[MeSH] OR "Domestic Violence/ethnology"[MeSH] OR "Domestic Violence/history"[MeSH] OR "Domestic Violence/legislation and jurisprudence"[MeSH] OR "Domestic Violence/prevention and control"[MeSH] OR "Domestic Violence/psychology"[MeSH] OR "Domestic Violence/statistics and numerical data"[MeSH] OR "Domestic Violence/trends"[MeSH]) AND ("Primary Prevention"[MeSH] OR ("Primary Prevention/classification"[MeSH] OR "Primary Prevention/economics"[MeSH] OR "Primary Prevention/education"[MeSH] OR "Primary Prevention/ethics"[MeSH] OR "Primary Prevention/history"[MeSH] OR "Primary Prevention/instrumentation"[MeSH] OR "Primary Prevention/legislation and jurisprudence"[MeSH] OR "Primary Prevention/manpower"[MeSH] OR "Primary Prevention/methods"[MeSH] OR "Primary Prevention/organization and administration"[MeSH] OR "Primary Prevention/standards"[MeSH] OR "Primary Prevention/statistics and numerical data"[MeSH] OR "Primary Prevention/utilization"[MeSH])) OR ("Child Abuse"[MeSH] OR "Battered Women"[MeSH] OR "Spouse Abuse"[MeSH])</p> <p><b>Women Abuse/ Battered Women/Spouse Abuse:</b>          (("Battered Women"[MeSH] OR ("Battered Women/classification"[MeSH] OR "Battered Women/education"[MeSH] OR "Battered Women/legislation and jurisprudence"[MeSH] OR "Battered Women/psychology"[MeSH] OR "Battered Women/statistics and numerical data"[MeSH])) OR ("Spouse Abuse"[MeSH] OR ("Spouse Abuse/classification"[MeSH] OR "Spouse Abuse/complications"[MeSH] OR "Spouse Abuse/diagnosis"[MeSH] OR "Spouse Abuse/economics"[MeSH] OR "Spouse Abuse/epidemiology"[MeSH] OR "Spouse Abuse/ethics"[MeSH] OR "Spouse Abuse/ethnology"[MeSH] OR "Spouse Abuse/etiology"[MeSH] OR "Spouse Abuse/history"[MeSH] OR "Spouse Abuse/legislation and jurisprudence"[MeSH] OR "Spouse Abuse/mortality"[MeSH] OR "Spouse Abuse/nursing"[MeSH] OR "Spouse Abuse/prevention and control"[MeSH] OR "Spouse Abuse/psychology"[MeSH] OR "Spouse Abuse/rehabilitation"[MeSH] OR "Spouse Abuse/statistics and numerical data"[MeSH] OR "Spouse Abuse/trends"[MeSH]) AND ("Primary Prevention"[MeSH] OR ("Primary Prevention/classification"[MeSH] OR "Primary Prevention/economics"[MeSH] OR "Primary Prevention/education"[MeSH] OR "Primary Prevention/ethics"[MeSH] OR "Primary Prevention/history"[MeSH] OR "Primary Prevention/instrumentation"[MeSH] OR "Primary Prevention/legislation and jurisprudence"[MeSH] OR "Primary Prevention/manpower"[MeSH] OR "Primary Prevention/methods"[MeSH] OR "Primary Prevention/organization and administration"[MeSH] OR "Primary Prevention/standards"[MeSH] OR "Primary Prevention/statistics and numerical data"[MeSH] OR "Primary Prevention/utilization"[MeSH]))</p>

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<p><b>Elderly Abuse:</b>  ("Elder Abuse"[MeSH] OR ("Elder Abuse/classification"[MeSH] OR "Elder Abuse/diagnosis"[MeSH] OR "Elder Abuse/economics"[MeSH] OR "Elder Abuse/epidemiology"[MeSH] OR "Elder Abuse/ethics"[MeSH] OR "Elder Abuse/ethnology"[MeSH] OR "Elder Abuse/etiology"[MeSH] OR "Elder Abuse/history"[MeSH] OR "Elder Abuse/legislation and jurisprudence"[MeSH] OR "Elder Abuse/mortality"[MeSH] OR "Elder Abuse/nursing"[MeSH] OR "Elder Abuse/prevention and control"[MeSH] OR "Elder Abuse/psychology"[MeSH] OR "Elder Abuse/rehabilitation"[MeSH] OR "Elder Abuse/statistics and numerical data"[MeSH] OR "Elder Abuse/therapy"[MeSH] OR "Elder Abuse/trends"[MeSH]) AND ("Primary Prevention"[MeSH] OR ("Primary Prevention/classification"[MeSH] OR "Primary Prevention/economics"[MeSH] OR "Primary Prevention/education"[MeSH] OR "Primary Prevention/ethics"[MeSH] OR "Primary Prevention/history"[MeSH] OR "Primary Prevention/instrumentation"[MeSH] OR "Primary Prevention/legislation and jurisprudence"[MeSH] OR "Primary Prevention/manpower"[MeSH] OR "Primary Prevention/methods"[MeSH] OR "Primary Prevention/organization and administration"[MeSH] OR "Primary Prevention/standards"[MeSH] OR "Primary Prevention/statistics and numerical data"[MeSH] OR "Primary Prevention/utilization"[MeSH]))</p>
<p><b>Child Abuse:</b>  ("Child Abuse/classification"[MeSH] OR "Child Abuse/complications"[MeSH] OR "Child Abuse/economics"[MeSH] OR "Child Abuse/epidemiology"[MeSH] OR "Child Abuse/ethics"[MeSH] OR "Child Abuse/ethnology"[MeSH] OR "Child Abuse/etiology"[MeSH] OR "Child Abuse/genetics"[MeSH] OR "Child Abuse/history"[MeSH] OR "Child Abuse/legislation and jurisprudence"[MeSH] OR "Child Abuse/mortality"[MeSH] OR "Child Abuse/nursing"[MeSH] OR "Child Abuse/prevention and control"[MeSH] OR "Child Abuse/rehabilitation"[MeSH] OR "Child Abuse/statistics and numerical data"[MeSH] OR "Child Abuse/therapy"[MeSH] OR "Child Abuse/trends"[MeSH]) AND ("Primary Prevention"[MeSH] OR ("Primary Prevention/classification"[MeSH] OR "Primary Prevention/economics"[MeSH] OR "Primary Prevention/education"[MeSH] OR "Primary Prevention/ethics"[MeSH] OR "Primary Prevention/history"[MeSH] OR "Primary Prevention/instrumentation"[MeSH] OR "Primary Prevention/legislation and jurisprudence"[MeSH] OR "Primary Prevention/manpower"[MeSH] OR "Primary Prevention/methods"[MeSH] OR "Primary Prevention/organization and administration"[MeSH] OR "Primary Prevention/standards"[MeSH] OR "Primary Prevention/statistics and numerical data"[MeSH] OR "Primary Prevention/utilization"[MeSH]))</p>
<p><b>Legal:</b>  ("Violence"[MeSH] OR ("Violence/classification"[MeSH] OR "Violence/diagnosis"[MeSH] OR "Violence/epidemiology"[MeSH] OR "Violence/ethics"[MeSH] OR "Violence/legislation and jurisprudence"[MeSH] OR "Violence/prevention and control"[MeSH] OR "Violence/statistics and numerical data"[MeSH]) AND ("Primary Prevention/classification"[MAJR] OR "Primary Prevention/economics"[MAJR] OR "Primary Prevention/education"[MAJR] OR "Primary Prevention/legislation and jurisprudence"[MAJR] OR "Primary Prevention/methods"[MAJR] OR "Primary Prevention/organization and administration"[MAJR] OR "Primary Prevention/statistics and numerical data"[MAJR] OR "Primary Prevention/utilization"[MAJR]) AND ("Domestic Violence"[MeSH] OR ("Child Abuse" [MeSH]) OR ("Elder Abuse"[MeSH]))</p>
<p><b>Limits applied.</b></p>
<p><b>Language:</b> English  <b>Date of Publication:</b> 1995-2005</p>

A new search attempted to identify high quality review studies addressing primary prevention of physical abuse with no restrictions with respect to language or geographic location. PubMed, a health-related database with international coverage from the National Library of Medicine was searched. Searches were extended to March 1, 2006. The Clinical Queries search strategy was used which finds citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence based medicine, consensus development conferences and guidelines. Search terms were “primary prevention of physical abuse” or “reducing violence”. This search was limited to identify citations for reviews published from January 1995-December 2005 (Extended to March 1, 2006).

**APPENDIX 4: REVIEW LITERATURE APPLICABILITY SCREEN**

<b>ARTICLE TITLE:</b>									
<b>SEARCH STRATEGY:</b>									
<b>REVIEWER ID:</b>									
In well conducted article review									
1.	<p><b>INCLUSION CRITERIA</b></p> <p><b>A. Was the study published <i>in or after</i> the year 1995?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, proceed to B; b) If no, exclude and codify</p> <p><b>B. Is the article published in English language?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, exclude and codify; b) If no, proceed to C</p> <p><b>C. Does this article apply specifically to primary intervention of physical abuse?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, proceed to D; b) If no, exclude and codify</p> <p><b>D. Does the article have a pre and post intervention measure?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, proceed to E; b) If no, exclude and codify</p> <p><b>E. Scope of intervention:</b>  Professional <input type="checkbox"/> Financial <input type="checkbox"/> Regulatory <input type="checkbox"/> Agency <input type="checkbox"/> Organizational <input type="checkbox"/> Other</p> <p><b>F. Study Design:</b></p> <table> <tr> <td><input type="checkbox"/> Systematic Review/Review</td> <td><input type="checkbox"/> Editorials and Commentaries (only clinical expert opinion)</td> </tr> <tr> <td><input type="checkbox"/> Randomized Control Trial (RCT)</td> <td><input type="checkbox"/> Cohort Study</td> </tr> <tr> <td><input type="checkbox"/> Clinical Controlled Trial (CCT)</td> <td><input type="checkbox"/> Control Before and After Study (CBA)</td> </tr> <tr> <td><input type="checkbox"/> Case Control Study (CCS)</td> <td><input type="checkbox"/> Interrupted Times Series Study (ITS)</td> </tr> </table> <p><b>H. Does the article fit one or more of the categories in F?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, proceed to I; b) If no, exclude and codify</p> <p><b>I. Study Methodological Inclusion Criteria:</b></p> <p>The objective measurement of performance/provider or patient health outcome(s)? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Relevant and interpretable data presented or obtainable? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p><b>J. Does the study methodology meets both of the criteria in I?</b>  Yes <input type="checkbox"/> No <input type="checkbox"/>  a) If yes, proceed to appraisal using design specific criteria Part B ; b) If no, exclude and codify</p>	<input type="checkbox"/> Systematic Review/Review	<input type="checkbox"/> Editorials and Commentaries (only clinical expert opinion)	<input type="checkbox"/> Randomized Control Trial (RCT)	<input type="checkbox"/> Cohort Study	<input type="checkbox"/> Clinical Controlled Trial (CCT)	<input type="checkbox"/> Control Before and After Study (CBA)	<input type="checkbox"/> Case Control Study (CCS)	<input type="checkbox"/> Interrupted Times Series Study (ITS)
<input type="checkbox"/> Systematic Review/Review	<input type="checkbox"/> Editorials and Commentaries (only clinical expert opinion)								
<input type="checkbox"/> Randomized Control Trial (RCT)	<input type="checkbox"/> Cohort Study								
<input type="checkbox"/> Clinical Controlled Trial (CCT)	<input type="checkbox"/> Control Before and After Study (CBA)								
<input type="checkbox"/> Case Control Study (CCS)	<input type="checkbox"/> Interrupted Times Series Study (ITS)								
4.	<b>Exclusion Notes:</b>								

**APPENDIX 5: LITERATURE SEARCHING RESULTS**

**Table A5: Conventional (Commercial) Database Search Summary**

Database	Date Coverage	Total Hits	Selected Hits	Included Articles
Embase*	1995-2006/02	377	58	19
Medline	1995-2006/02	2766	1210	27
PsycInfo*	1995-2006/02	46	12	17
CINAHL*	1995-2006/02	253	74	0
Cochrane*	1995-2006/02	621	19	3
ERIC*	1995/2006/02	197	35	13

**Note:** Textwords were used to search titles, abstracts and full-text as available. Search was conducted from 1995-2006 and 2000-2006.

**Hand Searching**

Hand searching was conducted on a variety of sources including selected journals relevant to primary prevention of physical abuse, websites relevant to primary prevention of physical abuse, and reviewed article reference lists.

Hand searching involved a manual examination of the entire contents of a source to identify all eligible reports of trials, whether they appear in articles, abstracts, editorials, letters or other text. Hand searching health care journals and internet websites is a necessary adjunct to searching electronic databases for at least two reasons: 1) not all trial reports are included on electronic bibliographic databases and 2) even when they are included, they may not be indexed with terms that allow them to be easily identified as trials. Hopewell et al. (2002) indicated that hand searching methods identified between 92% to 100% of randomized trials as compared to electronic databases (EMBASE 49%, MEDLINE 55% and PsycInfo 67%).

**Table A6: Conventional (Commercial) Journals Hand Search Summary**

Database	Date Coverage	Total Hits	Selected Hits	Included Articles
JAMA	1995-2006/02	61	35	6
BMJ	1995-2006/02	282	25	7
Journal of Family Violence	2000-2006/02	73	14	0
Archives of Pediatric & Adolescent Medicine	2000-2006/02	216	31	7
Journal of Interpersonal Violence	2000-2006/02	67	12	0
Violence and Victims	2000-2006/02	82	19	0
Trauma, Violence & Abuse	2000-2006/02	95	21	0
Child Abuse & Neglect	2000-2006/02	109	35	2
Violence Against Women	2000-2006/02	118	24	0
RespectED Library	1998-2005	18	8	8
National Clearinghouse on Family Violence	1998-2005	8	2	2

\***Note:** duplicates of records identified in Medline deleted from bibliographic management database.

## APPENDIX 6: SYNTHESIS OF RESULTS

***Section 1, Research Question 1: Which primary prevention interventions in the general population exist at the individual level demonstrating change in knowledge, change in behaviour, and change in exposure to physical violence and abuse when compared to no intervention?***

### **1A. Childhood**

#### SIGN Grade A: Strongly Supported

Five studies on home visitation strategies met criteria for Grade A level evidence for individual level change in exposure to physical violence and abuse (3 meta-analyses, 2 systematic reviews). While study findings were mixed, a targeted population for home visiting effectiveness was identified. One RCT of a program augmenting home visitation was found to be effective at increasing parents understanding of childhood facial expression but yielded no effect on physical abuse prevention.

#### *Home Visitation*

Home visitation strategies (Roberts et al., 1996; Guterman, 1999; Constantino et al., 2001; Bilukha et al. 2005; Macleod & Nelson, 2000; Elkan et al., 2000) were found to be of high quality with low risk of bias. Home visitation is defined as a program that includes visitation of parent(s) and children in their home by trained personnel who convey information about child health, development, and care; offer support; provide training; or deliver any combination of these services (Bilukha et al., 2005). Visits must occur during at least part of the child's first 2 years of life, but can begin during pregnancy and can continue after the child's second birthday (Bilukha et al., 2005).

Mixed evidence to suggest home visitation strategies were effective at preventing physical abuse initiated by parents. Among evidence suggesting no effect of home visiting, Roberts et al. (1996) conducted a meta-analysis of eight trials on home visiting using non-professionals and reported no effects of home visiting on abuse. Elkan et al.'s (2000) systematic review identified 2 other reviews (in addition to Roberts et al) also demonstrated inconclusive results. One study suggested that long term home visiting is effective at physical abuse prevention among single parent, impoverished and teenage parent populations but inconclusive in any other context and the other study demonstrated no reduction in state-wide reported abuse among populations that experienced home visiting in early childhood (Elkan et al. 2000).

Of studies providing evidence of home visiting as a primary prevention, Guterman (1999) assessed the effects of home visiting on positive parenting using a meta-analysis and reported weighted mean effects attributable to the intervention (3.72% in protective services reports and 1.092 reported in measures). MacCleod & Nelson (2000) also found home visitation by professionals or paraprofessionals to have be effective, in particular among participants of mixed socioeconomic status (SES) when compared to low SES participants (mean effect size=0.41) and where home visiting was part of a multi-component intervention (mean effect size=0.56) (Macleod & Nelson, 2000). Bilukha et al. (2005) also found evidence that early childhood home visitation programs are effective in preventing child maltreatment, reducing reported

maltreatment by approximately 39% (interquartile range: 74.1%-24.0%) especially when delivered by professionals rather than paraprofessionals. Bilukha et al. (2005) also found inconsistent mixed evidence among studies reviewed for home visitation preventing later violence by visited children.

Constantino et al (2001) conducted an RCT to assess the effectiveness of a program designed to augment urban home visitation with a series of group meetings for parents and infants. Parents in the intervention group exhibited a trend for improvement in their capacity to appropriately interpret infants' emotional cues (p-value=0.08), independent of the effects of home visitation itself. No effects demonstrated group intervention itself exerts positive influences on children's development.

#### SIGN Grade B: Good Practice

One controlled before and after study on parent training programming was recommended for change in behaviour leading to prevention of physical abuse. Baydar et al. (2003) evaluated the Incredible Years Parenting Training component of the Head Start program. Structural equation modeling showed that parent engagement training was associated with improved parenting in a dose-response fashion. Mothers with mental health risk factors (i.e. depression, anger, history of abuse as a child and substance abuse) exhibited poorer parenting than mothers without these risk factors. However, mothers with risk factors were engaged in and benefited from the parenting training program at levels that were comparable to mothers without these risk factors.

#### SIGN Grade C: Practice Requiring Further Support

One study in the area of media violence was considered for further investigation for change in behaviour. Robinson et al. (2001) conducted a quasi-experimental randomized control trial among 3rd and 4th grade students on an intervention to reduce television viewing. Compared with controls, children in the intervention group had statistically significant decreases in peer ratings of aggression (Adjusted mean difference, -2.4%, 95% CI:-4.6 - -0.2). Differences in observed physical aggression were not statistically significant but favored the intervention group.

#### SIGN Grade D: Expert Consensus, Promising Practice

Recommendations by experts in the field focused on providing guidelines of aspects that should be included in physical abuse prevention activities. Shepard & Farrington (1995) recommended that violence prevention activities among child populations should include family support, training of parents, preschool education, and modifying opportunities for crime (situational prevention). Interventions targeting single parent, low income and poorly educated families with preschool children using randomized experiment procedures were also recommended to determine efficacy of programming activities.

Barr, Barr & Taylor (2005) conducted a narrative review of efforts to prevent shaken baby syndrome. It recommended that educational interventions for new fathers (either prenatal or in the hospital after the child is born) are implemented to prevent shaken baby syndrome. Prevention programming was also recommended during childhood and adolescence as a part of health curriculum where realistic expectations can be developed for normal crying among infants and care giving stress.

SIGN Grade GPP: Good Practice Points, Promising Practice

Good practice points for primary prevention of physical abuse were consistent with findings recommending home visitation. Other primary prevention strategies suggested parenting skills would be effective.

Rivara (2002) suggested approaching abuse prevention in early childhood and continued on-home visitation, childhood education, early identification and treatment of behavioural problems are among recommended strategies. Additional support for home visitation programming was found by nurse visiting programs but lacked evaluation. The Nurse Family Partnership (NFP) is a nurse home visitation program targeting first-time, socially disadvantaged mothers. The NFP begins in the prenatal period and extends to 2 years and is currently disseminated (MacMillian & Wathen, 2005).

Beyond home visitation interventions, teaching parenting skills was suggested to be a viable means to prevent violence. Runyon et al. (2004) reviewed research documents that interventions geared only toward the parent have been found to produce significant improvements with respect to parenting abilities, parent-child interactions and children's behaviour problems. A cross-sectional study of the RETHINK parenting program among parents with normal anger levels demonstrated effectiveness when presented by professionals who both have background training and experience in parenting education and/or group facilitation and have the in-depth training.

**1B. Adolescents**

SIGN Grade A; SIGN Grade B; SIGN Grade D:

No studies were found at the Grade A, Grade B or Grade D levels of evidence.

SIGN Grade C: Practice Requires Further Support

One dating violence program examining individual level change among college age students was recommended for further investigation. Washington & Kuffel (2002) conducted a controlled before and after study to evaluation of brief psychoeducational program implemented with college dating students. Results suggested generally favorable effects on changing attitudes about dating aggression on a short term basis and an interaction with time was demonstrated however, effects of the curriculum were not stable over time.

SIGN Grade GPP: Good Practice Points, Promising Practice

Recommendations on primary prevention of dating violence and family violence were found at the good practice point level. Rickert et al. (2002) recommended efforts for primary prevention of dating violence should (1) increase the use of screening tools that measure victimization as well as attitudes and contextual parameters that promote dating violence, (2) increase self-efficacy to negotiate safer sex, (3) reduce the use/abuse of alcohol and other drugs that facilitate dating violence and (4) eliminate the influence of negative peer behaviour.

To prevent family violence among youth, Ahmann (2001) outlined strategies for good parental communications leading to primary prevention of family violence including 1) active communication, 2) expanding vocabulary to including statements of feeling, 3) using win-win negotiation strategies and 4) developing peaceable homes for the student environment.

### **1C. Adulthood**

#### SIGN Grade A; Grade C; SIGN Grade D:

No studies were found at the Grade A, Grade C or Grade D levels of evidence.

#### SIGN Grade B: Good Practice

One systematic review on primary prevention of domestic abuse identified several recommendations for a primary prevention of physical abuse including 1) educational and policy-related interventions to target children, youth and women to change social norms,, 2) initiatives to improve the safety of women and children, and 3) empowerment and life skills development for women with concrete tools to modify their social or economic circumstances, in order to enable women to become more independent by building self-esteem and increasing skills and resources (Hyman et al., 2000).

#### SIGN Grade GPP: Good Practice Points, Promising Practice

A narrative review also suggested specific interventions to prevent domestic abuse were provision of skills training for conflict resolution, and relationship/parenting skills. Interventions in schools to capture bullying behaviour in formative years were also suggested (Coker, 2004).

### **1D. Older Adults**

#### SIGN Grade A; SIGN Grade B; SIGN Grade GPP:

No studies were found at the Grade A, Grade B and Grade GPP levels of evidence.

#### SIGN Grade C: Practice Requiring Further Support

One study targeting the older adult population for behaviour change was recommended for further investigation. Wood & Stephens (2003) examined the decision-making abilities of residents in assisted living regarding abuse and neglect. Elderly participants reported poor awareness of available elder support services but performed fairly well in the simple identification of the abusive situations (54%), but had difficulty generating acceptable strategies for handling abusive situations. Approximately 25% had no suggestion, 50% reported they would consult a family member and 25% had nonspecific suggestions (e.g., talk to staff about problem).

#### SIGN Grade D: Expert Consensus, Promising Practice

Primary prevention of physical abuse leading to changes at the individual level among the elderly should consider the impact of age and sex. Vinton (1999) suggest that the joint forces of ageism and sexism affect older female victims. Recommendations relevant to primary prevention included: countering sexist and ageist beliefs among and creating a socially supportive environment as aspect of programming for older women that can be empowering.

**Section 2, Research Question 2: Which primary prevention education interventions exist at the community level in the general population demonstrating change in knowledge, change in behaviour and change in exposure to physical violence and abuse when compared to no intervention?**

## **2A. Childhood**

### SIGN Grade A: Strongly Supported

A home-based intervention was assessed as Grade A evidence leading to change in behaviour. Littel et al. (2003) conducted a review of multisystemic therapy (MST) for childhood populations. Multisystemic Therapy (MST) is an intensive, home-based intervention for families of youth with social, emotional and behavioural problems with masters-level therapists engage family members in identifying and changing individual, family, and environmental factors thought to contribute to problem behaviour. Pooled results on scales from studies measuring self reported delinquency, self-esteem, peer relations and social competence showed no significant differences in abuse prevention for experimental versus control conditions.

### SIGN Grade B: Good Practice

A school based intervention targeting school climate was recommended for change in behaviour. Luiselli et al. (2005) examined the effectiveness of a whole-school intervention on positive behaviour support on student discipline problems including violent behaviour and academic performance. Compared to pre-intervention phase, office referrals increased during the initial three months of intervention, but decreased less frequently in the final two months of the first school year and throughout the following school year and after follow-up. It was concluded that student discipline problems decreased and academic performance improved following violence prevention intervention.

### SIGN Grade C: Practice Requiring Further Support

School-based education intervention, Peacebuilders, was determined as requiring further investigation for change in knowledge and behaviour. Flannery et al. (2003) conducted study to examine Peacebuilders and its effectiveness to promote change by using behavioural techniques such as symbolic and live models, role-plays and rehearsals, and group and individual rewards. PeaceBuilders created significant change in teachers' perceptions of school climate and individual student behaviour, and increased time for intervention led to increased positive outcomes. PeaceBuilders also led to higher teacher ratings of student social competence in grades K-5 and lower teacher ratings of aggression in grades 3-5. Self-reporting by students, however, failed to indicate significantly different behaviours between with the exception of peace-building skills for students in grades 3-5.

A follow-up study on Peacebuilders added assessment of covariates, age, gender, SES and race (Vazsonyi et al., 2004). Age was found to effect female social competence, male teacher-rated aggression, male and female prosocial behaviours and male self-reported aggression. Race effected female prosocial behaviour and male and female self-reported aggression. Findings indicated that the effects of PeaceBuilders were not universal across covariate categories (age, race, SES).

A multi-faceted intervention leading to change in behaviour examined the long term effects of an intervention combining teacher training, parent education and social competence training for children in elementary grades (Hawkins et al., 1999). The nonrandomized longitudinal study was designed determine the effect of elementary curriculum on adolescent risk taking. Students receiving the full intervention (all components) reported less violent delinquent acts ( $p < 0.05$ ) and reported more commitment and attachment to school and better academic achievement and less acting out.

SIGN Grade D: Expert Consensus, Promising Practice

Expert consensus evidence focused on school based violence prevention activities designed to 1) reduce stigmatization of children perpetrating bullying (Spivak & Prothrow-Smith, 2001), 2) to promote underlying principles of positive discipline (Zwi & Rifkin, 1995) and 3) to increase the value of children (Bethea, 1999).

Spivak & Prothrow-Smith (2001) recommended that a constructive approach must be taken to minimize or a avoid labeling children inappropriately as bullies and ensure that conclusions are not drawn prematurely, thereby risking inappropriate responses, interventions or disciplinary actions as a tactic to prevent bullying in school settings.

Zwi & Rifkin (1995) recommended a wide range of population based interventions aimed at moving towards a non-violent society based on underlying principles that all discipline should be positive, that children should be taught pro-social values and non-violent means of resolving conflicts, and that parents and teachers should consistently promote non-violence at home and in schools.

Bethea (1999) suggested strategies on the societal level including increasing the economic self-sufficiency of families, discouraging corporal punishment and other forms of violence, making health care more accessible and affordable, expanding and improving coordination of social services, improving the identification and treatment of psychological problems and alcohol and drug abuse, providing more affordable child care and preventing the birth of unwanted children (Bethea, 1999). Strategies on the familial level include helping parents meet their basic needs, identifying problems of substance abuse and spouse abuse, and educating parents about child behaviour, discipline, safety and development (Bethea, 1999).

SIGN Grade GPP: Good Practice Points, Promising Practice

Among good practice points, Browne et al. (2005) indicated that there is consistent evidence that violent imagery in television, film and video and computer games has substantial short-term effects on arousal, thoughts and emotions, increasing the likelihood of aggressive or fearful behaviour in younger children, especially in boys. To counteract the effects of violent imagery, Black & Newman (1995) recommended that parents get more objective information about the content of films to supervise their children; parents enroll in education courses about the media and participate in decisions about the appropriate classification of film sand videos. Training in non-violent methods of resolving conflict is effective in reducing aggression in young children was also recommended.

Another good practice point involved a school based evaluation intervention proposed by Huesmann et al. (1996) to lead to behavioural changes. A multifaceted education intervention designed to change peer nominated aggression and teacher observed aggression was proposed. While evaluation of the RCT had not been conducted, it was inferred that rigorous assessment of baseline comparability measures for evaluations should be conducted.

Development of a community based model for abuse and violence prevention among children was provided by Rosenberg & Knox (2005). Rosenberg & Knox (2005) merged risk reduction and positive youth development approaches by developing The Child Well-Being Matrix. The Child Well-Being Matrix integrates the risk reduction focus found in public health prevention models, with developmental science and a focus on promoting positive development in youth. The matrix involved integration of domains of well being, domains of environmental influences and developmental stages to provide an integrative framework of health care professionals to intervene.

## **2B. Adolescence**

### **SIGN Grade A: Strongly Supported**

Four school based education interventions to prevent physical abuse by change in knowledge were identified. Foshee et al. (1998, 2000) conducted a study of an education curriculum, Safe Dates, designed to prevent dating violence. No significant differences were nonsexual violence, violence in current relationship among treatment and control groups ( $p < 0.05$ ). At one year follow-up, no significant differences were found for nonsexual violence, and violence in current relationship among treatment and control groups however primary prevention group had increased scores on negative views about violence.

Flay et al. (2004) conducted an RCT on a prevention program that addressing multiple risk behaviours and teaching conflict resolution skills among inner city African American boys in grades 5 through 8. Effect sizes for violence (0.31 and 0.41) indicated effectiveness among intervention group. This evidence suggested that interventions that are theoretically derived, developmentally appropriate, and culturally sensitive can have concurrent effects on multiple risk behaviours including violence.

Spoth et al. (2000) conducted an RCT using multi-informant, multi-method measures of adolescent aggressive and hostile behaviours in adolescent-parents interactions. All measures showed a generally positive trend in intervention-control-group differences over time. During 10th grade, significant intervention-differences were found for adolescent self-report of decreased aggressive and destructive conduct ( $p < 0.05$ ), with relative reduction rates ranging from 31.7% to 77.0%. Significant differences were also shown for observer rated aggressive and hostile behaviours in adolescent-parent interactions ( $p < 0.05$ ).

### **SIGN Grade B: Good Practice**

No studies were found at the Grade B level of evidence.

SIGN Grade C: Practice Requiring Further Support

One study of community mobilization met the criteria for further investigation. A randomized controlled trial was evaluated to test the effect of a community mobilization and youth development strategy to prevent drug abuse, violence, and risky sexual activity (Cheadle et al., 2001). The intervention involved a community organizer in each neighborhood who recruited a group of residents to serve as a community action board. The decision-making power in each neighborhood was vested in a community action board and neighborhood projects including several health fairs and community festivals, workshops and training and education programs were initiated. Pre- and post-intervention survey results showed that mobilization increased to the same degree in both intervention and control neighborhoods with no evidence of an overall intervention effect. There did appear to be a relative increase in mobilization in the neighborhood with the highest level of intervention activity.

Four school based education interventions were identified as requiring further investigation for change in knowledge leading to physical abuse prevention. Gardner et al. (2004) used a controlled before and after study to assess the effectiveness of Connections, a relationship and marriage education intervention. Findings only demonstrated effectiveness in their interactions with time, suggesting that the Connections group became more knowledgeable about the key content and concepts of the curriculum over time, whereas the control group showed no change.

Bosworth et al. (1996) conducted a controlled before and after study on 16 week intervention called SMART TALK employing games, simulations, graphics, cartoons and interactive interviews to engage adolescents. No significant differences on scales between intervention and control on violence related measures, impulsivity and anger.

Harrington et al. (2001) conducted a cohort study on theory-based character education and problem behaviour prevention program designed to address mediating variables that have an impact on problem behaviour. Mean violence did not differ from pretest to posttest but evidenced a clear increase across all conditions from posttest to follow-up. Follow-up analyses revealed that for students in the control and specialist conditions, violence was stable from pretest to posttest but evinced an increase from posttest to follow-up.

Marshal et al. (1996) examined the effect of child abuse prevention curriculum in health classes in four schools using a control before and after study. Effect of the intervention on attitudes towards violence were in a generally positive trend favouring the intervention especially on empathy subscale scores and was found statistically significant in 2 of 4 schools.

SIGN Grade D: Expert Consensus, Promising Practice

Elements of effective school based educational programs were predominantly discussed. Expert consensus focused on individual aspects of programming activities and determining how to change the culture of a school by changing knowledge and behaviour.

For individual programming activities, Greene (1998, 2005) recommended a participatory action approach whereby students engage in developing, implementing and assessing circumscribed programs or strategies based on their identification of, and perspectives on, school problems. School based programming activities with several psychoeducational or social-skills training

programs have also been found to be effective (Greene 1998, 2005). Greene (2005) and Dunesbury et al (1997) also recommended developmentally tailored approaches for programming and teaching interpersonal skills including personal and social competence, and use of multiple teaching and training modalities..

Recommendations to change the culture and norms of a school included use of a comprehensive multifaceted approach including peer, family, media and community components beginning in primary grades and reinforced across grade levels, activities designed to promote positive school climate or culture should be elements of classroom management strategies (Dunesbury et al., 1997) and programming to address the “zeitgeist” or “spirit” of the school (Stanley et al., 2004). BC-based recommendations on school health promotion were also provided by Kendall (2003). Recommendations focused on feasibility and sustainability over time and included violence and a number of other risk behaviours. Recommendations included development and implementation an evidence-based curriculum that runs from school entry to graduation as part of a comprehensive school health promotion process.

One study assessed the impact of family structure on violence. Knoester et al (2005) assessed the contexts of family structure and violence. Family structure at the neighborhood level and feelings of integration into family at the individual level affect youth violence. It was found living in a neighborhood with relatively high proportions of single-parent families increased the likelihood that an adolescent will commit violence—even after accounting for family structure and background characteristics that may select families into disadvantaged neighborhoods.

#### SIGN Grade GPP: Good Practice Points, Promising Practice

Following recommendations found at the expert level of evidence, Waldron (2003) recommended development and implement a whole-school approach to bullying that is more integrative and holistic and involves all members of the school community, including teachers, students, administrators, and parents. This approach should acknowledge how bullies, victims, peers, the classroom and the school are all inherently linked in bullying problems.

The Multisite Violence Prevention Project (2004) provides an example of Waldron’s (2003) recommendations in action. The Multisite Violence Prevention Project (MVPP) was a 5-year project to compare the effects of a universal intervention (all students and teachers) and a targeted intervention (family program for high-risk children) on reducing aggression and violence among sixth graders. Four participating universities—Duke University, the University of Georgia, University of Illinois at Chicago, and Virginia Commonwealth University—were selected. The program, GREAT, was an acronym for Guiding Responsibility and Expectations for Adolescents for Today and Tomorrow with a 2-component universal intervention for students and teachers. The GREAT Student Program was designed to help all sixth-grade students develop social, emotional and cognitive skills to handle conflict and to enact pro-social norms and behaviours (Meyer et al., 2004; Multisite Violence Prevention Project, 2004). The GREAT Teacher Program is designed to empower all sixth-grade teachers to prevent aggression and to take a solution-focused approach to problem behaviour (Orpinas et al., 2004; Multisite Violent Prevention Project, 2004).

While full-scale evaluation has not taken place, an evaluation plan for a cluster-randomized controlled trial is planned for the future (Miller-Johnson et al., 2004). Upon implementation of the project alone, lessons have been learned from the process. For instance, efficacy and effectiveness may not be as distinguishable and programming should focus should be on changing the social norms. The difficulties in using experimental designs were also described as difficult (Multisite Violence Prevention Project, 2004). Kohn et al. (2004) commended the robust design of the Multisite Violence Prevention Project and its focus on the role of the school environment. Usefulness to state and local public health practitioners will depend in large part on generalizability of the MVPP is to the specific conditions in that jurisdiction (Kohn et al., 2004). Farrell et al. (2001) focused on the pragmatic features of program development and evaluation. Farrell et al. (2001) suggested that developers of violence prevention programs need to pay particular attention to the type of violence being addressed, the target population, relevant risk and protective factors, and the target of the intervention. Conducting sound evaluations of such programs requires careful attention to the unit of randomization, treatment conditions, outcome measures, timing of data collection and potential moderator variables. Efforts to develop effective prevention programs can be greatly facilitated by adopting a participatory action–research strategy.

Other areas with good practices included Lamberg (1998) who suggested a mission driven approach is effective at primary prevention where children take personal responsibility for how they resolve conflicts with one another, classroom training for children to manage anger, develop cognitive skills, improve self control and reduce aggressive behaviour.

## **2C. Adulthood**

### SIGN Grade A; SIGN Grade B:

No studies were found at the Grade A and Grade B levels of evidence.

### SIGN Grade C: Practice Requiring Further Support

One intervention designed to change behaviour was identified at the community level that required further investigation. Coyne–Besley et al. (2001) conducted a study of firearm storage practices assessed by survey and personal and telephone interview. At follow-up, a 29% increase in storing guns in a locked compartment was reported ( $p < 0.05$ ); a 72% increase in using gun locks was reported ( $p < 0.05$ ), and a 10% increase among persons storing their ammunition locked in a separate location was reported. Participants with children were more likely at baseline to store weapons unlocked and loaded (59% vs. 41%); ( $p < 0.05$ ) but were more likely after counselling to lock their weapons (58% vs. 44%) and remove guns from the home.

### SIGN Grade D: Expert Consensus, Promising Practice

Evidence at the expert consensus level focused on developing community capacity building and networking. Bowen et al. (2004) suggested that communities can be engaged to prevent violence as it is identified and defined locally and link primary prevention across multiple forms of violence. Steps involved included creating safety, understanding violence, building community, promoting peace and building democracy and social justice.

Sobol et al. (2004) suggested examining community capacity in terms of social interactions. Building bonds or “bridges” to organizations for the purposes of obtaining or sharing resources to meet needs, and also connect a community into a broader social fabric were also recommended. Proposed methods to build bonds included 1) using programs to act as “institutions of social integration” or provide mechanisms and opportunities for the people they serve to develop connections and linkages with mainstream social institutions; 2) have programs should in ways that strengthen community ties and resources and 3) have programs establish appropriate levels of connections with the three spheres of social control—the private, parochial, and state controls previously identified.

Budde et al. (2004) proposed systematic activities designed to change the existing quality, level, or function of an individual’s personal social network or to create new networks and relationships for families through the use of volunteers and peer-group experiences. For this model, there was emphasis on the concept of mobilizing social support to achieve outcomes for a specific family rather than broader community building or family support activities.

SIGN Grade GPP: Good Practice Points, Promising Practice

Faris (2001) also had recommendations on community capacity building, more so focused on community sustainability of programming. Creating sustainable community futures is for them to create “learning communities” in which both formal and non-formal lifelong learning of individuals and groups is systematically fostered in order to enable sustainable economic development, promote social inclusion and cohesion and encourage civic and social participation.

**2D. Older Adults**

SIGN Grade A; SIGN Grade B; SIGN Grade C; SIGN Grade D:

No studies were found at the Grade A, Grade B, Grade C, Grade D levels of evidence.

SIGN Grade GPP: Good Practice Points, Promising Practice

Kinnon (2001) suggested a community approach to prevent abuse of the elderly is to strengthen or build the informal support systems - the family, community gatekeepers, neighbours and peer support. These networks are different from formal social service delivery systems because they rely on people’s natural helping tendencies and feelings for one another. Older people are more likely to turn to these informal networks for help because they are close by and trusted. In some rural and remote communities, few, if any, formal services exist. Informal support systems are the key to the detection, intervention and prevention of physical abuse and neglect.

**Section 3, Research Question 3: Which primary prevention interventions exist demonstrating change in knowledge, change in behaviour, and change in service provision among service providers when compared to no intervention?**

**3A. Childhood**

SIGN Grade A; SIGN Grade B:

No studies were found at the Grade A and Grade B levels of evidence.

SIGN Grade C: Practice Requiring Further Support

One study was found to require further investigation. Johnson et al. (1999) studied the impact of parental counselling on violence prevention by pediatric residents. Before the program, guns or violence was discussed at 9.7% of visits; but increased to discussion at 19.1% of visits after the program (OR= 2.20, 95% CI: 1.02-4.74). Improvement was sustained 6 months after the program and more than 80% of pediatric residents felt the program increased knowledge and taught them skills.

SIGN Grade D: Expert Consensus, Promising Practice

The Task Force on Violence Prevention (1999) recommended pediatricians should incorporate physical violence and abuse prevention at all parts of the child and adolescent stages include: early nurturing; limit setting; safety screening; and advocacy. Rivara (1995) also recommended that pediatricians can play a major role in violence prevention through recognition and intervention for poor parenting, provision of social support to families, recognition and management of behavioural problems and promotion of preschool and early childhood education programs.

The Committee on Public Education (2001) also provided an additional list on recommendations from the American Association of Pediatricians. Recommendations focused on exposure to media violence and mitigating the deleterious impacts. Recommendations for pediatricians included:

- 1) Awareness of the pervasive influence that the wide and expanding variety of entertainment media have on the physical and mental health of children and adolescents and incorporation of media history into annual health visits.
- 2) Encouraging parents to adhere to the AAP Media Education recommendations including making thoughtful media choices and co viewing with children, limiting screen time (including television, videos, computer and video games) to 1 to 2 hours per day, using the v-chip, avoiding violent video games in homes where they may be observed or played by young children and keeping children's bedrooms media free.
- 3) Ensuring that only nonviolent media choices be provided to patients in outpatient waiting rooms and inpatient settings.
- 4) On a local level, encouraging parents, schools, and communities to educate children to be media literate as a means of protecting them against health effects of media exposure.
- 5) On state and national levels, collaborating with other health care organizations, educators, government and research funding sources to keep media violence on the public health agenda.
- 6) Advocating for more child-positive media, not censorship.

SIGN Grade GPP: Good Practice Points, Promising Practice

Among good practice points, recommendations for emergency department physicians were found. Mace et al. (2001) indicated that many venues are available to the emergency physician for violence prevention including 1) Educating the public (our patients, their families and the community); 2) serving as a resource for community groups and governmental agencies; 3) working with governmental agencies and advocacy groups and 4) promoting legislative activity. Denham (1995) suggest nurses also have the ability to engage assist with primary prevention of physical abuse and violence within the health care system by providing education, facilitating the development of child and parent support groups, assisting parents with child behavioural problems. In the school system, nurses could also engage in educational programs about violence and support school boards to develop assessment criteria and aid administration in policies for interdisciplinary referrals.

**3B. Adolescent**

SIGN Grade A; Sign Grade B:

No studies were found at the Grade A and Grade B levels of evidence.

SIGN Grade C: Practice Requiring Further Support

Two studies targeting the primary care physicians were recommended for further investigation for change in service provision. The Massachusetts Medical Society Violence Program was developed for physicians who wanted to incorporate violence prevention into primary care and urgent care practice (Sege et al., 2005). To date, process oriented evaluations has only been conducted and it has been suggested that the program is successful based on program demand. Rigorous evaluation methodology was not used. Solomon et al. (2002) studied pediatric resident attitudes and behaviours to counselling adolescents and their parents about firearm safety. Strongest predictors for counselling adolescents included the belief that gun-related media coverage influences practice, level of training and personal experience with guns in the home.

One study on a school based education intervention targeting teachers was recommended for further investigation. Newman-Carson et al. (2004) evaluated Bullybusters, a psychoeducational intervention for middle school teachers. Scores on teacher inventory of skills, the intervention group demonstrated higher knowledge, higher personal teaching efficacy and higher teaching efficacy for problem child typologies. No significant differences were found between intervention and control groups on general teaching efficacy.

SIGN Grade D: Expert Consensus, Promising Practice

Among expert consensus evidence, Sege & Hoffman (2005) examined efforts for training health professionals and identified the following areas that needed to be in place to facilitate uptake of knowledge: 1) building the scientific infrastructure necessary to support the development and widespread application of effective youth interpersonal violence prevention interventions; 2) promoting interdisciplinary research strategies to address the problem of youth interpersonal violence; 3) fostering collaboration between academic researchers and communities and 4) mobilizing and empowering communities to address the problem of youth interpersonal violence.

Two studies cited curriculum content as responsible for leading to change among health care providers at the expert consensus level. Meyer & Masho (2005) evaluated a six-module curriculum on youth violence prevention, the Epidemiology and Prevention of Intentional Injury, was developed for inclusion at a graduate course for public health students. Curriculum content was determined by reviewing key literature and the consensus group reports of experts in the area of youth violence prevention and prevention research more generally. Student acquisition of knowledge regarding youth violence prevention has been evident in the high quality of state-of-the-art papers and presentations given by students at the end of the semester.

Sidelinger et al. (2005) conducted study on the Academic Centers of Excellence on Youth Violence Prevention (ACE YVP) development of violence prevention curricula for healthcare professionals. Recommended elements for curricula were to address all forms of youth violence, including child abuse, intimate partner violence, and youth-on-youth violence by providing youth based experiences at all levels of training, facilitate access to mental health services, avoidance of corporal punishment, elimination of unsupervised firearm access, and minimization of exposure to violence, including through the media.

SIGN Grade GPP: Good Practice Points, Promising Practice

Among good practice points, primary care providers were highlighted for their abilities to assist in engaging in primary prevention interventions however caution should be taken to ensure that detection strategies are not used as potential exists for compounding harms among patients. Physicians and other public health professionals are well positioned maximize youth well-being in school, home, and community settings (Browne et al., 2005)

Ginsburg (1998) cited the ability of pediatricians to assist in screening youth and detecting among youth not exposed to violence. Areas where physicians could assist in physical abuse and violence prevention included providing general patient education on violence prevention and parental education on disciplining children (Christoffel et al., 2000). Knox et al. (2005) examined surveys on Connecting the Dots Training and Outreach Guide used to introduce health professionals and students to the basic concepts of youth violence prevention and to screening, counselling, and referral resources that they can incorporate into their own practices. After reading the guide, 86% indicated that they intended to modify their attitudes about youth violence as a result of the training and 92% indicated that they intended to modify their assessment practices as a result of the training.

Consistent with Knox et al.'s (2005) findings, Roderigues (2005) conducted an interdisciplinary course among allied health students. Course models included completion of problem-solving case studies analyses, special assignments, and a final integration project that consisted of a collaborative group project. After the course, 95% of the students reported that the course increased their understanding of youth violence. In addition, for effective primary prevention programming among youth, Hill (2005) recommended commitment to a comprehensive, long-term solution with efforts on multiple fronts. Stakeholder involvement from planning implementation, evaluation and collaborations must occur in order to ensure violence prevention occurs initiated by health care professionals.

Three studies identified school based personnel as service providers who could intervene for primary prevention of abuse. Leaf et al. (2005) indicated that two content areas were required to develop and enhance competency of school based violence programming. To develop and enhance competency health professionals could examine the school as a context for health prevention and promotion, and explore issues that promote and impede (1) the integration of violence prevention and remedial interventions within the broader school program and (2) collaborations with families and community-based agencies. D'Andrea et al. (2004) described the abilities of school based counselors to provide violence prevention assistance. A comprehensive approach to school-based violence prevention requires school counselors to (a) identify students who are at risk for expressing heightened anger and inappropriate aggression and (b) work with these students in individual and small group counselling settings to help them learn new and more effective ways of dealing with their anger, hostility and aggression. Finally, Brinson et al. (2004) recommended that where possible cross cultural conflict resolution strategies are used to deal with violence for school counselors. Recommendations included adaptation of conflict resolution methods exemplified in low conflict societies. Borrowing strategies from low conflict societies to change the norms at the school level was an optimum goal.

### **3C. Adulthood**

#### **SIGN Grade A:**

No studies were found at the Grade C and Grade D levels of evidence.

#### **SIGN Grade B:**

While some studies have suggested that primary care providers to identify domestic violence (Thomson et al., 2000; Ferris, 2004), there is evidence suggesting that this practice demonstrates inconclusive results in preventing violence (Ramsay et al., 2002) and can possibly lead to more harm for women (Cory & DeChief, 2007).

The Safety and Health Enhancement (SHE) Framework is a model developed by the BC Women's & Children's Hospital Woman Abuse Prevention Program. The SHE Framework for Women Experiencing Abuse offers guidance to partners engaged in violence prevention in multiple sectors: policy, research, and practice (Cory & Dechief, 2007). The framework is designed in recognition of the complex nature of violence against women and the subsequent challenges in providing services and supports to victims. The SHE Framework consists of three components: two complementary conceptual models, an evidence paper and a toolkit, making it readily accessible to policy, research and professional audiences.

The SHE Toolkit involves a process taking between six months and one year to complete and with four major components: 1) Establishing the Safety and Health Enhancement Team; 2) Using the SHE Models and Evidence Paper to guide the identification of compounding harms relevant to the health setting under review; 3) Developing a Safety and Health Enhancement Action Plan for the team's health setting and 4) Implementing the Safety and Health Enhancement Action Plan in both the short- and long-term (Cory & Dechief, 2007).

## ***Core Public Health Functions for BC: Evidence Review***

### **Prevention of Violence, Abuse & Neglect**

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The SHE Framework recognizes that violence and abuse is not simply a health issue - the broader sociopolitical context that places women at risk must be recognized and addressed by public policy interventions. Targeting the “higher level” policy, research and health practices provides the foundation by which women are empowered and can be protected from exposure to violence. Concurrently, public health approaches can be used to address the access to health, health impacts and violence against women includes support for those women who have experienced violence. The model has been piloted in BC with very positive results.

#### SIGN Grade C: SIGN Grade D:

No studies were found at the Grade C and Grade D levels of evidence.

#### SIGN Grade GPP: Good Practice Points, Promising Practice

Other potential areas where violence prevention can occur include clinical settings. Hausmann (1995) also suggested that clinical settings can host a variety of education experience that generate significant responses from patients, families and friends (e.g. specialized materials such as videos with high quality materials) in structured settings with time for discussion and commentary.

Runyan et al. (2004) suggested a national training intervention for health care practitioners would assist in developing an understanding of how to prevent violence before it occurs, 1) learn and practice skills to plan or enhance prevention activities, (2) explore new approaches to partnering or strengthening partnerships and (3) build a network of practitioners with people participating in the workshop. The PREVENT program used a combination of varied types of face-to-face training and distance learning coupled with opportunities for networking and technical assistance. Ultimately the program intends to stimulate and facilitate changes in individual, organizational and cultural awareness and practices fostering primary prevention of violence.

Among adult populations, physicians were also identified as potentially assisting in preventing firearm related injuries. To this end, the American College of Physicians (1995) recommended legislation to limit firearm availability, physician counselling, development of coalitions of health care professionals to address the issue, and changes in gun design for safety.

### **3D. Older Adults**

#### SIGN Grade A; SIGN Grade B; SIGN Grade D & Sign Grade GPP

No studies were found at the Grade A, Grade B, Grade D and Grade GPP levels of evidence.

#### SIGN Grade C: Practice Requiring Further Support

Two studies were identified at the good practice point level as recommending program components relevant to an older adult population to assist in changing service provision. Levine (2003) and Kurrle (2004) suggested that primary care providers are best positioned to educate elderly patients on physical abuse prevention. Due to common co-morbidity and chronic illness in this population, primary care providers might have the ability to diagnose, intervene and report potential victims (Levine, 2003) however, caution should be taken to ensure that patients are not put at risk or harms are not compounded.

**Section 4, Research Question 4: Which coalitions and networks exist which have demonstrated success in primary prevention of physical abuse?**

**4A. Childhood**

SIGN Grade A; SIGN Grade B; SIGN Grade D; SIGN Grade GPP:

No studies were found at the Grade A, Grade B, Grade D and Grade GPP levels of evidence.

SIGN Grade C: Practice Requiring Further Support

Layants & Epstein (2005) suggested that multi-disciplinary teams (MDTs) in child welfare led to increased coordination and collaboration between agencies. By and large, referral sources, team members, and service recipients saw the multidisciplinary approach as advantageous. Mulroy & Shay (1997) proposed that neighbourhood based collaborations could assist in preventing violence provided that collaborations included a steering committee, a network of service programs and administrative infrastructure.

**4B. Adolescent**

SIGN Grade A; SIGN Grade B; SIGN Grade C; SIGN Grade D:

No studies were found at the Grade A, Grade B, Grade C and Grade D levels of evidence.

SIGN Grade GPP: Good Practice Points, Promising Practice

One study was found at the good practice level and proposed how primary prevention of abuse can be implemented. Riner et al., (1999) suggested that the Social Ecology Model of Adolescent Interpersonal Violence Prevention could be used as a tool for communities to identify and address the multiple factors impacting engagement in or avoidance of violent behaviours.

**4C. Adulthood**

SIGN Grade A: Strongly Supported

Among adult populations, Allen (2006) examined the effectiveness domestic violence coordinating councils. Beyond the criminal justice system, the vast majority attempted to address training needs for the community or key stakeholder groups, such as health care professionals, clergy or law enforcement (90%). In this study, two aspects of leadership were examined: the extent to which leaders promoted the broad inclusion of participants' voices and the extent to which they maintained a task orientation (e.g., managed meetings efficiently). This requires leaders to attend to process (e.g., including and managing diverse viewpoints) and action. There is evidence that the capacity of leaders to master both of these sometimes competing skills is central to effective leadership in collaborative settings.

SIGN Grade B; SIGN Grade C:

No studies were found at the Grade B and Grade C levels of evidence.

SIGN Grade D: Expert Consensus, Promising Practice

One study was found at the expert consensus level outlining how success in primary prevention of physical abuse could be achieved. Williams (2004) suggested that a key step to enhance collaboration is to ensure that the research does not perpetuate and increase the privilege of one group over another. Researchers and practitioners need to work together to understand the social

and political context of violence against women, taking into account the intersectionality of gender, race and socioeconomic status.

SIGN Grade GPP: Good Practice Points, Promising Practice

Among good practice points, the Family Violence Prevention Fund (2004) suggested a transnational and cross-cultural agenda of research in family violence. The proposed agenda would go beyond comparison of results obtained from studies conducted in separate nations or regions and develop measures and procedures that are sufficiently standardized across nations. To accomplish this, collaboration among researchers, as well as between researchers and practitioners, from different nations and cultures needs to take place, either through international research teams or international agencies.

**4D. Older Adults**

SIGN Grade A; SIGN Grade B; SIGN Grade C; SIGN Grade GPP:

No studies were found at the Grade A, Grade B, Grade C and Grade GPP levels of evidence.

SIGN Grade D: Expert Consensus, Promising Practice

At the expert consensus level, Ward (2000) examined ageism and the abuse of older people and discussed what can be done to achieve quality of care for older people while dealing with obstacles such as poor collaboration between agencies, a lack of support for carers and the belief that needs of older are less important than those of the young. Effective multidisciplinary working is of vital importance, better legal provisions are required and there is a need for a greater understanding of the problem of ageism. Facilitating autonomy and decision making in the care of older people is also a priority as is involving and supporting carers and valuing the contribution that they and the non-statutory agencies have to offer.

**Section 5, Research Question 5: Which regulations, laws, decrees, institutional policies, records and practices exist that have led to a reduction in reported incidence and prevalence of physical violence and abuse compared to none?**

**5A. Childhood**

SIGN Grade A; SIGN Grade B; SIGN Grade C; SIGN Grade D; SIGN Grade GPP:

No studies were found at the Grade A, Grade B, Grade C, Grade D and Grade GPP levels of evidence for recommendation.

**5B. Adolescence**

SIGN Grade A; SIGN Grade B; SIGN Grade D:

No studies were found at the Grade A, Grade B and Grade D levels of evidence.

SIGN Grade C: Practice Requiring Further Support

Among evidence for media violence programming, Bushman & Cantor (2003) examined the practice of television rating systems among parents. Parents expressed a strong preference for content-based ratings (64.7%) over age-based ratings (25.4%) ( $d=1.09$ , 95% CI = 1.04-1.15). The effect is stronger for male participants than for female participants. Ratings actually deter media selection until the age of 8; by the age of 11 and until at least the age of 22, ratings exert an attraction effect.

Kotinsky et al. (2004) examined the threat of violence after exposure to school related violent reports in the media and suggested that evaluation of how much media time is devoted to reporting on violent events. During the cross-sectional study, 354 threats of violence were with 110 threats occurred in less than 10 days after a violent school event. Communities with decreased education among adult populations had higher proportion of threats.

SIGN Grade GPP: Good Practice Points, Promising Practice

Two studies on firearm restrictions were recommended as proposed methods to reduce the prevalence and incidence of violence. Powell et al (1996) examined firearm use among youth and recommended restriction of carrying in public places; longer sentence: firearm detectors; public education; safe storage and use of firearms. Among firearm users, licensing, waiting periods (Brady Law), disruption of illegal markets, technology to "individualize" firearms were recommended. Legal restrictions such restrictive licensing; increased taxes; restriction of imports and domestic manufacturing only were recommended. Freed (1998) suggested a product oriented focus on injury control efforts could assist in preventing violence including 1) reducing number of guns in the environment by restrictive legislation, 2) reducing demand by gun buy-back programs, increasing product price or working in conjunction with physicians on safety counselling and 3) preventing unauthorized use of gun by childproofing guns, decreasing lethality of guns.

### **5C. Adulthood**

#### SIGN Grade A: Strongly Supported

Hahn et al. (2005) conducted a comprehensive review focusing on firearms laws as one means of preventing violence. Evidence was insufficient to determine the effectiveness or ineffectiveness on violent outcomes of banning the acquisition and possession of firearms, the effect of firearms acquisition restrictions on public health and criminal violence, waiting periods for the prevention of crimes, licensing and registration and zero tolerance of firearms in schools.

#### SIGN Grade B; Grade D:

No studies were found at the Grade B and Grade D levels of evidence.

#### SIGN Grade C: Practice Requiring Further Support

Two studies were recommended for further investigation. Ludwig & Cook (2000) evaluated the Brady Violence Prevention Handgun Act. The Brady Violence Prevention Handgun act involved a national system of background checks and waiting periods for gun purchase. Evaluation demonstrated no significantly different changes in homicide rates and suicide rates except reduction in suicides among adults aged 55 years and over.

#### SIGN Grade GPP: Good Practice Points, Promising Practice

Consistent with Ludwig & Cook (2000), Cole & Flanagan (1999) recommended graduated licensing style access to firearms, safer gun design and research on the risks and benefits on the mandatory reporting laws.

### **5D. Older Adults**

#### SIGN Grade A; Sign Grade B; Sign Grade C; Sign Grade D; Grade GPP:

No studies were found at the Grade A, Grade B, Grade C, Grade D and Grade GPP levels of evidence.

**Section 6, Research Question 6: Which primary prevention organizational interventions exist that have demonstrated effectiveness in changing knowledge, behaviour, abuse-related exposure and subsequent policy regarding the prevention of physical violence and abuse at municipal (or county, provincial or state) or federal levels?**

**6A. Childhood**

SIGN Grade A; Sign Grade B; Sign Grade C; Sign Grade D; Sign Grade GPP:

No studies were found at the Grade A, Grade B, Grade C, Grade D and Grade GPP levels of evidence.

**6B. Adolescent**

SIGN Grade A; Sign Grade B; Sign Grade C; Sign Grade GPP:

No studies were found at the Grade A, Grade B, Grade C and Grade GPP levels of evidence.

SIGN Grade D: Expert Consensus, Promising Practice

Osler & Starkey (2005) examined media representations and policies in France and in England relating to the disaffection of young people in schools. Both English and French schools were suggested to operate in discriminatory ways. Media representations suggest in France it is more readily acknowledged that violence in schools reflects a systemic problem, whereas in England there is a tendency to see youth disaffection as a problem located within individual learners. In both countries, governments stress the importance of integration and social inclusion, recognizing education as a key means to take forward this policy.

Jiwani & Berman (2001) recommended that for effective change to occur, it is imperative that institutional sites for intervention be defined and the appropriate resources be harnessed toward implementation. Factors that influence the identity formation of girls as girls, as racialized and sexualized "others," and as disabled, need to be understood and recognized as critical points of departure for the development of equitable policies and programs.

**6C. Adulthood**

SIGN Grade A; Sign Grade B; Sign Grade C; Sign Grade D:

No studies were found at the Grade A, Grade B, Grade C and Grade D levels of evidence.

SIGN Grade GPP: Good Practice Points, Promising Practice

Two studies discussed recommendations on progress through organizational interventions to reduce domestic abuse. Shepard (2005) suggested that the multiple reforms put into place over 20 years, it has been learned that comprehensive institutional reforms can be successful in reducing domestic violence. It is recommended that the next steps are that coordinated community responses that include a host of agencies acting together to protect victims and hold offenders accountable can make a difference. Initial studies of interagency coordination and of uniform policies and procedures demonstrated increased rates of identification and intervention.

Graffunder et al. (2004) suggested areas effectiveness of interventions and policies to prevent perpetration of domestic abuse should be evaluated. Programs should work to identify social norms that support intimate partner violence and evaluate strategies to change them.

**6D. Older Adults**

SIGN Grade A; Sign Grade B; Sign Grade C; Sign Grade D:

No studies were found at the Grade A, Grade B, Grade C and Grade D levels of evidence.

Sign Grade GPP: Good Practice Points, Promising Practice

Evaluation of the Abuse Prevention in Long-Term Care Project (APLTC) which was administered across Canada suggested that to prevent of physical abuse and violence in long term care settings, several measures can be taken including 1) sensitizing persons (primarily older persons and those who had some form of association with them or with long-term care services) to the problem of abuse and neglect of older persons residing in institutional settings; 2) Generating discussion that could lead to further understanding and a commitment to finding solutions; 3) raising awareness of the need for a supportive and respectful environment for seniors in institutional settings and ways to foster such an environment and 4) improving working conditions (Jamieson & Hart, 2004).

## **APPENDIX 7: COMMITTEE MEMBERSHIP**

### **Executive Committee (in alphabetical order)**

- Larry Cohen, Director - The Prevention Institute
- Dr. Trevor Hancock, Public Health Consultant - BC Ministry of Health
- Matt Herman, Director, Injury Prevention & Healthy Aging, BC Ministry of Health
- Lorna Storbakken, Director, Core Programs Implementation, BC Ministry of Health

### **Advisory Committee (in alphabetical order)**

- Jill Cory, Women Abuse Response Program, BC Women's Hospital
- Peter Coleridge, Provincial Health Services Authority, BC Mental Health and Addictions Services
- Lydia Drasic, Provincial Health Services Authority
- Michael Egilson, Youth and Corporate Integration, BC Ministry of Health
- Joan Geber, Women's, Maternal & Children's Health, BC Ministry of Health
- Judi Fairholm, Canadian Red Cross
- Patricia Janssen, University of British Columbia
- John Millar, Provincial Health Services Authority
- Erin O'Sullivan, Women's, Maternal & Children's Health, BC Ministry of Health
- Ann Pederson, BC Centre for Excellence for Women's Health
- Tracey Porteous, BC Association of Specialized Victim Assistance and Counselling Programs