HL25.6

To: The Toronto Board of Health

From: Trustee Chris Glover

Date: Tuesday February 27, 2018

Subject: A public health approach to community violence

I would like to submit the following motion for the March 5th, 2018 Toronto Board of Health meeting:

A Public Health Approach to Community Violence

In 2017 there were 375 shooting incidents involving 565 victims in Toronto. This type of community violence has physical and mental health impacts on the victim, perpetrator, family, friends and neighbours that, if left untreated, feed into the cycle of violence. This motion asks the Board of Health to develop a public health approach to addressing community violence.

The Board of Health recommends that:

1. Community exposure to violence be recognized as a social determinant of health;

2. The Medical Officer of Health collaborate with Public Health Ontario and academic partners to scope out an approach and related costs for a research project to examine the extent of community exposure to violence and its physical and mental health impacts in Toronto and to identify how programs can be developed and supported to mitigate these impacts;

3. The Medical Officer of Health continue to work with Social Development Finance and Administration and members of affected communities to identify effective approaches for the City to provide a comprehensive evidence informed approach when shooting incidents occur in Toronto, including explorations of programs such as the Chicago-based *Interrupters*; and

4. The Medical Officer of Health report back to the Board of Health in July 2018 on TPH's progress in respect of the aforementioned work.

Yours Sincerely,

Chris Glover
TDSB Trustee
Etobicoke Centre
5050 Yonge Street, 1st Floor
chris.glover@tdsb.on.ca
416-395-8787

Exposure to Community Violence as a Social Determinant of Health

Chris Glover & Bobbak Makooie

Executive Summary

This report argues that exposure to community violence should be considered a social determinant of health. Through a review of the literature, it identifies health impacts from exposure to community violence that span from birth to adulthood. It also draws on the literature to identify strategies for reducing community violence.

In 2017 there were 375 shooting incidents involving 565 victims in Toronto. These incidents impact not only the victims and the perpetrators, but their families, friends and entire neighbourhoods. While the city has taken a number of measures to reduce violence – police intervention, crisis response interventions, neighbourhood improvement and poverty reduction strategies, the number of shootings in Toronto persists. It's time to consider a different approach.

Although not generally recognized as a public health issue, a public health lens on community violence changes our understanding of community violence and how to treat it. Those who have lost family, friends or neighbours to violence, often suffer from fear, anxiety, depression, PTSD, anger, aggression, and shortened life expectancy. When exposure to community violence is left untreated, it feeds into the cycle of violence. For example, when someone is shot and hospitalized, if we just treat their physical injuries, we send them back to the a situation where either the shooter may try again, or the victim may seek retribution. We need to address the physical and mental health impacts and intervene in the community to stop the cycle of violence.

Research shows the following impacts of exposure to community violence:

1) Increased rates of preterm birth and low birth weight.
2) Mental Health Impacts:
    - Fear
    - Depression
    - Anxiety
    - PTSD
    - Increased incidence of alcohol abuse
    - Sense of helplessness and lack of self-efficacy
    - Anger
    - Aggression
    - Low survival expectations. Young people in violent neighbourhoods often don't expect to live into adulthood.
3) Physical Health Impacts:

Children often have no safe place to play. Adults exercise less because of fear of going out.

4) Social Impacts - Those who are fearful in their communities see friends less often and participate in fewer social activities.
5) Parenting impacts:
   Research indicates that parents who are unable to cope with exposure to community violence have difficulty bonding with their children and are more likely to form an anxious, disorganized, disoriented attachment with their child, rather than a secure one.
6) Lower achievement in school.
7) Stigma:
   There is judgment by the media and broader community. When someone is shot, the immediate reaction is "what did they do to deserve this?" Media and police responses can trigger a lack of interest/concern by the public if the victim is labeled as being "known to police". People who live in violent neighbourhoods cannot use their real addresses when searching for work because of stigma.

A public health approach also shows that guns and gun violence can also be understood as a virus that spreads through communities. This insight comes from Dr. Gary Slutnik in Chicago. Slutnik, an epidemiologist, worked on the Ebola and AIDS epidemics in Africa, then returned to Chicago and realized that gun violence followed the same epidemic pattern. His "Cure Violence" approach treats guns and gun violence as any epidemic would be treated - by developing expertise with the virus and breaking its transmission points. To break the transmission of gun violence, his program has recruited ex-convicts to negotiate non-violent solutions to conflicts in communities where they have the knowledge of the players and culture and can intervene. The program, called the "Interrupters" has been evaluated and has been shown to reduce the number of shootings and homicides in seven American cities.

Recommendations to the Toronto Board of Health:

1) The Toronto Board of Health should recognize exposure to community violence as a social determinant of health.
2) Collect baseline data: While there is some data available, for the most part in Toronto, we do not know the extent of exposure to community violence. We do not know, for example, how many children and teenagers do not have a safe place to play, or feel afraid to walk home after school. We do not know how many young people have witnessed violent crimes in their neighbourhoods or have lost someone or in some cases multiple people to gun and other community violence. Developing this understanding will be the first step in developing a plan to effectively reduce community violence.
3) Work with partners to develop a plan to address the physical and mental health impacts of exposure to community violence.
4) Work with the police, social services and other city departments to develop a plan to take a "cure violence" approach to community violence, including investigating the start of an "interrupters" program in Toronto.

Exposure to Community Violence as a Social Determinant of Health

Preface

During my seven years as a Trustee with the Toronto District School Board, I've become increasingly aware of the health impacts of exposure to community violence. There are the direct impacts - young people who are who are wounded or killed - but there are also the impacts on their family members, friends, and neighbours.

Some examples:

· *A young woman told me that she was walking out of her townhouse when a car pulled up. Four young men got out and started shooting at a neighbour of hers who was standing on his porch. She rushed her mother back inside and fortunately the police came before anyone was killed. But the next day, her siblings were too scared to go to school. We had a school social worker visit the family and that seemed to allay their fears enough to return to school. Six months later her neighbour, who had been a friend of the young woman's since childhood, was killed.*

· *While visiting a grade 5 class, the discussion turned to the issue of feeling safe. I asked the students how many of them felt safe in their neighbourhoods - only half raised their hands. One of those who did not described witnessing a stabbing, another described being chased by a gang member after witnessing a drug deal, and a third described how he and his family went into lockdown - closing the blinds, barricading the door and locking themselves in a bedroom - when a gunfight erupted in their neighbourhood.*

· *Sitting next to a 17 year old student at a meeting who two years ago, the student described how his mother was afraid to let him go to school on his own either because he'd be attacked by a gang or be recruited into one. So she dropped him off in the morning and picked him up at 3:30. The rest of the time, he said he was at home staring at the walls, or playing on the computer. This student was quite thin and looked like he wasn't getting enough exercise.*

· *Lecent Ross, 14 years old at the time, was killed by a handgun allegedly by a 15 year old boy in a house in Rexdale. Her 17 year old friend, the father of another friend, and the friend of a relative were killed in the same year. These tragedies come in clusters and disproportionately affect people in low income neighbourhoods.*

· *A youth counselor in both public and Catholic schools, Elizabeth Correia, describes the chronic exposure to community violence that marked her early years. Leaving an abusive home at age 12, she was shuffled from foster home to foster home, sold drugs and attended the funerals of 25 friends by her early 20s.*

Over my time as a Trustee, I've come to realize that people in Toronto have widely different life experiences -communities where violence is a regular part of life, and communities where the small fraction of shootings and stabbings that make it into the media seem like random and lamentable incidents that are distant from our daily lives. In 2015, I applied to be the Education rep on the Toronto Board of Health because I wanted to increase awareness of the health impacts of community violence, and to investigate how public health resources could be used to mitigate those impacts. This report reviews the literature on the health impacts and potential solutions of exposure to community violence..

Introduction

In this paper, we argue that exposure to community violence should be considered a social determinant of health. Consideration of exposure to community violence would fill a gap in the social determinants of health literature, and would raise awareness of the experiences of residents living in violent communities so that policy makers could adopt a health promotion approach to reduce the violence, and to mitigate its health impact on the residents of violent communities.

The impact of exposure to community violence is an under-reported and under-studied public health phenomenon in Canada. Community violence takes different forms across Canada. In Toronto, there were 407 shooting incidents in 2016. Just under half of these (n=193) involved injuries or death that impact not only the victims and perpetrators, but their families, friends and entire communities (Toronto Police Services, 2017). The shootings were concentrated in low income neighbourhoods, where community members are disproportionately affected by violence. Incidents of both youth and adult crime follow social gradient with higher rates in low income areas and lower rates in higher income areas (statistics Canada 2011). Street youth are particularly vulnerable to violent crime with 76% being victims of crime, 73% being repeated victims over one year, and 64% being victims of violent crime (Gaetz, O,Grady & Buccieri, 2010).

It is well established that people from the lowest socio-economic status (SES) have the lowest health outcomes while those in the highest SES have the highest health outcomes (Denny & Brown, 2010). These negative health outcomes include lower birth weights and lower educational achievement, and higher rates of injuries, disability, disease, mental health disorders, and behavioural problems (Denny & Brownell, 2010). Although these impacts are found in low SES communities, research on exposure to community violence finds negative health impacts independent of SES community status. Research shows that from prenatal development to adulthood exposure to community violence has measurably negative impacts on health status including preterm birth, low birth weight, stress, lower cognitive functioning, aggression, depression, anxiety, PTSD, shortened life expectancy, shortened survival expectations and greater risk taking behaviours.

In this paper, we address two questions:

1) To what degree is exposure to community violence an independent variable that contributes to the negative health outcomes in low income communities?
2) Would a social determinants of health approach to exposure to community violence help to raise awareness and address exposure to community violence as a public health issue?

Social Determinants of Health

The World Health Organization (WHO, 2008) defines the Social Determinants of Health as: "the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness". WHO argues that economics, social policies, and politics create health inequities that lead to a wide gap in life expectancy between and within countries. WHO (2008) identifies the following social determinants of health:

- Income and social status
- Education
- Physical Environment
- Social Support Networks
- Genetics
- Health Services
- And Gender

In Canada several organizations provide similar but slightly different lists of the major social determinants of health (SDOH). The Public Health Association of Canada adds four to the list:

- Employment/working conditions
- Personal health and coping skills
- Healthy child development
- Culture

Some groups have added social determinants that are accepted within their own organizations but not officially recognized by other organizations. The Native Women's Association of Canada (2007), for example, adds food insecurity and aboriginal status to the list. HIV/AIDS Resources and Community Health Guelph (2008) adds immigration, sexual orientation and gender identity to their list of the social determinants of health.

There does not seem to be a fixed criteria for adding components to the SDOH list, however, the Public Health Association of Canada (PHAC, 2011) emphasizes the need for evidence-based decision making that looks beyond traditional health status indicators like death, disease and disability. PHAC (2011) states that "a population health approach establishes indicators related to mental and social well-being, quality of life, life satisfaction, income, employment and working conditions, education and other factors known to influence health" (para. 4). There is clear evidence that health status improves with income level and that "the degree of control people have over life circumstances, especially stressful situations, and their discretion to act are

key influences" (para. 7). PHAC (2011) also reports that "a number of recent studies show that limited options and poor coping skills for dealing with stress increase vulnerability to a range of diseases through pathways that involve the immune and hormonal systems" (para. 8).

While we recognize that the social determinants of health are "interdependent and mutually reinforcing" (Irwin & Scali, 2007) effective interventions require that individual SDOH's be identified. Observing the impacts of exposure to community violence, in particular shootings and stabbings, have led the authors to investigate whether exposure to community violence should be included as a separate SDOH based on effects of exposure to community violence on health and deleterious synergistic effects with existing SDOH.

Definition of Exposure to Violent Crime

Definitions of violent crime and exposure to violent crime vary from study to study. The definitions of violent crime for all studies in this report include homicide, shootings, stabbings, sexual assaults, kidnapping, and violent robberies. Most of the studies used in this review focus exclusively on violent crimes. Some studies define exposure to community violence as as "frequent and continual exposure to the use of guns, knives, and drugs, and random violence" (Osofsky, 1995, p. 782). Masi, Hawkley & Piotrowski (2007) defined violent crime as homicide, assault, sexual assault, and kidnapping. The exclusive focus on violent crime in most of the studies allows clear attribution of the impacts of violent crime. Other studies that include both violent and non-violent crimes are also included as neighbourhoods with high levels of violent crime often have high levels of other non-violent crimes as well.

Method

To identify potential health impacts of exposure to community violence a search was conducted of relevant electronic databases (proquest, google scholar, psychinfo) using combinations of keywords including ``violence``, ``community violence``, ``neighbourhood crime``, ``social determinants of health``, ``mental health``, ``birth weight``, ``prenatal``, ``education``, ``school success``. Several primary studies were found which demonstrated impacts of exposure to community violence. Most of these studies are retrospective analyses of survey data with large (n>1,000) cohorts. They demonstrate impacts of exposure to community violence from prenatal development (low birth weight and pre-term births) to adulthood. The arc of this report follows these impacts chronologically through the life cycle. As well as these primary studies, the findings from three literature reviews are included in the report where they are relevant to the argument being made (Evans & Kantrowitz, 2002; MacDonald & Richmond, 2008; Sharp, 2002). Finally, some anecdotal quotations both from other reports and from media are included to provide some first hand accounts of the impacts of exposure to community violence.

As well as attributing exposure to community violence to particular health outcomes, some of the studies provide insights into the mechanisms by which exposure to community violence

lowers health outcomes. For example, students in violent communities experience greater violence at school, which leads to higher levels of fear/stress, which impairs cognitive functioning, and leads to lower educational achievement (Attar et al, 1994; Schwab-Stone et al., 1995). Lower educational achievement in turn is linked to lower health outcomes.

This report is not intended to be an exhaustive review of literature in this area, but to provide evidence of causal links between exposure to community violence and lower health outcomes in order to determine whether exposure to community violence should be considered a social determinant of health.

Literature on Exposure to Community Violence: Canadian Literature

There is a great deal of research, primarily originating from the United States on the impacts of exposure to community violence. Taken together the studies trace impacts from prenatal stages to adulthood on individuals as well as impacts on communities that exacerbate and perpetuate the violence. Much of the literature for this report is drawn from the United States because the rates of violent crime are higher, but also because the issue is more commonly researched and therefore more research is available. Rates of community violence in the U.S. are often extremely high. One study in New Haven Connecticut, for example, found that almost all 8th graders knew someone who had been killed, and 40% of 6th, 8th and 10th graders reported witnessing a violent crime in the previous year (Marans & Cohen, 1993).

Although the levels of community violence are drastically lower in Canada, research indicates that the American studies are relevant to Canada. For example, homicide is the third leading cause of death among 15-24 year old males in Canada, the fourth leading cause of death among 1-14 year olds and 25-34 year olds (Statistics Canada, 2009). After age 35 homicide drops to the sixth leading cause of death to age 44. Beyond age 45, homicide is not in the top ten causes of death in Canada. Homicide and other violent crimes in Canada disproportionately impact low income communities whose residents are 1.5 times more likely to be victims of violent crime, including physical assault, sexual assault and robbery (Taylor-Butts, 2004). Taylor-Butts (2004) argues that the seriousness of these violent crimes could explain why crime victims in low-income communities are more likely to report a greater level of disruption to their daily activities than crime victims from higher income communities, where property theft is a more common crime.

In its Victimization Survey, Statistics Canada (2004) reports a strong divide between those who feel that they live in a high crime neighbourhood and those who do not. Respondents who reported that their neighbourhood had a high crime rate had a significantly higher fear of victimization that includes being home at night, taking public transportation at night, and walking alone after dark. Statistics Canada (2004) also reports that 2% of Canadians feel “very unsafe” in their communities. Another Canadian study by Chau (2006) provides evidence that the impacts of exposure to community violence found in American studies are relevant to the homeless youth population of Toronto. She found that youth who had left homes often to escape domestic violence encountered high levels of community violence on the streets. She found that rather than being “hardened” to violence, homeless youth suffer psychological distress through their exposure violence on the street. The findings that Canadian residents in low income

communities experience higher levels of violent crime and greater impacts from victimization of these crimes in particular higher levels of stress and fear, indicates that at least some of the impacts of exposure to community violence are relevant to the Canadian context.

Literature on Exposure to Community Violence

In this section of the paper, we review the literature on the impacts of community violence chronologically from prenatal to adulthood.

Preterm birth and low birth weight

Preterm birth is associated with a number of health problems including neurological disabilities, breathing problems, feeding difficulties, cerebral palsy, developmental delay, vision problems and hearing impairment (Centre for Disease Control, 2016). Preterm birth and low birth weight are often associated with low income status across and within countries including countries with universal health care such as Canada (Statistics Canada, 2007). When adjusted for infant sex, maternal age group, and recent immigration, low birth weight and preterm birth are more frequent in low income neighbourhoods in Toronto. Infants born in the lowest income quintile were 25% more likely to be born preterm and 46% more likely to be born with low birth weight. Similarly, Toronto Public Health (2015) reports that babies in the lowest income group in Toronto for example are 40% more likely to be born with low birth weight (Toronto Public Health, 2015).

Several studies have found associations between exposure to community violence and either low birthweight or preterm birth (Collins & David, 1997; Girugescu, 2012; Massi et. al., 2007; Messer et. al., 2006; Morenoff, 2003). Messer et. al (2006) conducted a retrospective cohort study in Raleigh, North Carolina, that involved 13,960 women who resided in a 114 block crime area. The study found that "the greater the crime rate in the block under study, the greater the proportion of preterm births" (p. 457). For subjects living in the highest crime areas preterm birth proportions were 11.9% versus 6.9% in the lowest crime areas.

A similar method was followed by Masi et. al. (2007) to compare the 1991 birth database information from Chicago with a violent crime dataset that was geocoded to track crime by census tract. The objective of this study was to determine the extent to which census tract economic disadvantage, violent crime rate, and group density were associated with pregnancy outcomes among white, black, and Hispanic infants in a large metropolitan setting. Masi et. al. (2007) defined violent crime as homicide, assault, sexual assault, and kidnapping. The study concluded that "among all racial/ethnic groups, violent crime rate accounted for most of the negative association between tract economic disadvantage and birth weight" (p. 2440).

Girugescu (2012) conducted post-birth surveys of 72 women in a postpartum medical centre in Chicago, n=33 preterm and n=39 full term births. The surveys measured the perceived indicators of neighborhood environment, racial discrimination, psychological distress, and gestational age at birth. The survey results were compared with *objective* data on

neighbourhood environment using geographic information systems. The neighbourhood environment included physical disorder, social disorder and violent crime. Physical disorder included vacant housing, vacant lots, and vandalism. Social disorder included drug dealing, prostitution, and gangs. Violent crime included homicide, physical assault, sexual assault,and kidnapping.The researchers were able to establish a causal link between social disorder, which increased the level of psychological distress, which in turn increased the risk of preterm birth.

Collins & David (1997), Messer et. al. (2006) and Masi et. al. (2007) draw inferences from their research that suggest the mechanisms by which exposure to violent crime may impact prenatal development. Through further analysis of their data, Masi et. al. (2007) found that the violent crime rate had a greater impact on birth weight, while lack of community diversity was associated with preterm birth. They conclude that exposure to violent crime and lack of diversity may work through different mechanisms. Collins and David (1997) and Messer et. al. (2007) hypothesize that exposure to violent crime induces stress responses that predispose to low birth weight. As well as suggesting mechanisms, these studies also suggest ways to mitigate the impact of exposure to community violence. Through a multivariate study, Morenoff (2003) found that social engagement in neighbourhoods mitigated the impact of exposure to violent crime as well as impacts from poverty and residential instability.

Psychological/Emotional Impacts

Most of the literature on the impacts of exposure to community violence deal with psychological and emotional impacts and the subsequent consequences of these. Among the impacts researchers have attributed to exposure to community violence are depression, anxiety, PTSD, increased incidence of alcohol abuse, a sense of helplessness and lack of self-efficacy, and lower survival expectations. These in turn can lead to lower academic achievement, aggression and high risk-taking behaviour. Research shows that exposure to community violence impacts mental health in many cultural settings. Most studies referenced in this report are American studies of poor, predominantly black inner city communities. Gray, Richer & Harper (2016), however, found that exposure to community violence affects mental wellness among Canadian Inuit populations in ways similar to those of studies in other cultural settings. The researchers applied multilevel regression modelling on data collected as part of a Nunavik Inuit Health Survey. Mental health was defined in two outcomes, self esteem and suicidal ideation. The study found increased suicidal ideation in communities with more threats of physical violence indicating a correlation between exposure to community violence and lower mental health outcomes.

People exposed to community violence adopt one of three roles, aggressor, victim or bystander (Sharp 2001; Slaby 1997). Each role leads to response patterns/coping behaviours which can continue into adulthood (Sharpe 2001). In several studies, aggressors often report using violence and carrying a weapon as a means of protection against victimization (American Academy of Pediatrics Committee on Communications, 1999; Slaby, 1997; Sharp, 2002). Victims often perceive the world as an unsafe place. They often blame themselves for causing violence, not being able to change the situation, or for tolerating it. Bystanders may instigate, encourage or discourage violence or witness without intervening. Some bystanders believe violence is

justifiable in response to aggression, using aggression is better than being a victim, and that it is not their place to intervene. Some children who are frequent bystanders espouse a lack of empathy towards victims of violence.

These responses in turn lead to particular psychological and emotional impacts. In a review of empirical studies on the relationship between community violence and mental health symptoms, MacDonald and Richmond (2008) found that victimization was strongly associated with depression, and witnessing violence (bystander role) was associated with anger. Both roles were associated with increased depressive symptoms, anxiety, post-traumatic stress, and aggression. Dr. Bradley Stolbach, Director of "Healing Hurt", says that many youth in Chicago would meet the diagnostic criteria for PTSD and speaks about Developmental Trauma Disorder, as a disorder that affects youth who are exposed to ongoing, extreme violence (Stolbach & Reese, n.d.). "Many of our youth and our families would meet the diagnostic criteria for PTSD," says Dr. Stolbach, "and there's actually, a lot of parallels to PTSD in people who've been in combat" (Aljazeera, 2016).

Fear is the emotion most commonly cited in studies of the emotional and psychological impacts of exposure to community violence. A British study of Whitehall data - a survey of 10,000 civil servants aged 35-55 - found that fear of crime correlates with poorer mental health, reduced physical functioning and lowered quality of life (Stafford, Chandola & Marmot, 2007). Participants reporting higher fear of crime were almost twice as likely to have depression and had lower mental health scores on a Medical Outcomes Survey. Those reporting a higher fear of crime, "exercised less, saw friends less often, and participated in fewer social activities" (p. 2076).

A study of 359 children who performed a neuropsychological test to measure the impact of community violence found that the children's base anxiety level predicted the type of behaviour they exhibited after the violent crime (McCoy et.al., 2015). After an occurrence of community violence, children with a low base anxiety level responded with "vigilant attention patterns", watching for and responding to negative stimuli, while paying less attention to positive stimuli . Children with a high base anxiety level attempted to avoid both negative and positive stimuli, withdrawing within themselves. McCoy et.al. (2015) conclude that both of these adaptive responses indicate an increased risk of deeper psychological difficulties.

In the research, there is evidence that fear of violence leads to feelings of helplessness and hopelessness and lower self-efficacy beliefs (Dupere, Leventhal & Vitaro, 2012). In a study of 2,345 adolescents, Dupere, Leventhal and Vitaro found that (2012):

> *adolescents living in violent neighborhoods were more likely to internalize low self-efficacy beliefs, that is, beliefs of powerlessness regarding their ability to avoid violence in their immediate urban environment and, more generally, to succeed in the future. This link was partly due to fear of violence in their neighborhood. (Dupere et. al. 2012, p. 196).*

Adolescents in the study who moved out of Chicago to less violent neighbourhoods, exhibited high levels of self-efficacy confirming the finding that it was the exposure to community violence that had led to the low self-efficacy.

Education

Research shows that the psychological impacts of exposure to community violence impact students' psychological development through different grade levels. In a study of 384 first, second and fourth grade African-American and Hispanic students Attar et.al (1995) investigated the concurrent relations between negative life events including exposure to community violence and aggression/anxiety/depression, and school achievement. Among the questions relating to exposure to community violence were: "Has a family member been robbed or attacked?" "Have you had to hide someplace because of shootings in your neighbourhood?" The study found that the students in their group were exposed to between four and seven stressors in the previous year, more than double the rate of a previous study of caucasian middle income students who experienced on average two stressors in the previous year. The study also found that life transition stressors - a move to a new home, a marriage, a new baby - led to short term aggression, but exposure to community violence led to both short and long term aggression, with the students exhibiting aggressive behaviour a year after the event. The authors speculate that "children may learn that being tough and aggressive both minimizes the emotional impact of persistent stressors and maximizes their ability to survive under difficult and extreme environmental conditions" (p. 398). However in these early grades there was no significant correlation between exposure to community violence and academic achievement.

Another study, however, found a link between student achievement and exposure to community violence among high school students. Schwab-Stone et. al.(1995) found that level of violence exposure and a feeling of being unsafe was significantly predictive of school achievement in children in grades 6, 8, and 10. Females who experienced community violence were more likely to report symptoms of depression or anxiety, while males had greater involvement in aggressive and antisocial activities and lower school achievement. The study results indicate that exposure to community violence affects school achievement in later grades. In the study, when SES was accounted for, school achievement was similar for the grade 6 and 8 cohorts, but had declined for grade 10 students who had experience with community violence.

The relationship between exposure to violence and academic achievement is complex and can be affected by mediating factors such as educational aspirations. An American research project involving 681 urban African American youth found that educational aspirations can play a role in either perpetuating or breaking the cycle of violence (Stoddard, Heinze, Chloe & Zimmerman, 2015). The study analyzed interview data from the cohort in grades 9, 12 and at age 22 and compared exposure to community violence (responses to questions about how many times they had witnessed someone injured in a violent crime, and/or seen someone shot, stabbed or beaten up). Those who had more exposure to community violence had lower

educational aspirations in grade 9. However, in spite of their exposure to community violence, those who had higher educational aspirations in grade 6 were less likely to have participated in violent crime at age 22.

Physical Activity and Socializing

Exercising and socializing are essential to maintaining both physical and mental health, but several studies show that exposure to community violence often mean that children have no safe to play and that they socialize less. Studies from Toronto and Saskatoon indicate that lower income communities are also less likely to provide children with safe places to play (Stone et. al. 2012; Loptson, Muhajarine, & Ridalls, 2012). In a qualitative study of built environment and physical activity of children in Saskatoon, Loptson, Mujaharine, and Ridalls (2010) participants found that danger due to higher crime levels was as a deterrent to physical activity among children. Similarly, a British study found that lower physical functioning and mental health were associated with fear of crime (Stafford, Chandola, Marmot, 2007). People living in high crime neighbourhoods "exercised less, saw friends less often, and participated in fewer social activities". Lack of safety not only precludes physical activity, one Quebec study found linkage between poverty, feeling unsafe at school, decreased physical activity and increased risk of obesity (Côté-Lussier, Fitzpatrick, Séguin, & Barnett, 2015). Feeling unsafe at school included a lack of teacher support, low school socioeconomic status and classroom rowdiness, which are in turn linked to lower physical activity and increased probability of obesity and other health impacts including chronic health problems, acute infections, higher hospital admission rates, and more disability days and greater psychosocial stressors.

Survival Expectations

Exposure to community violence also reduces survival expectations, defined as the confidence of surviving to age 35 (Swisher, & Warner, 2013). Swisher and Warner (2013) based their study on 15,000 interviews done in three waves with a sample group drawn from the National Longitudinal Study of Adolescent Health involving adolescents in grades seven through twelve. One of the studies cited referenced an interview with a ten year old boy growing up in public housing in Chicago. When asked what he wanted to be when he grew up, the boy responded,

> *If I grow up, I'd like to be a bus driver.*
>
> Kotlowitz, 1991 in Swisher & Warner, p. 679

Swisher & Warner (2013) found that exposure to community violence and depression correlated with decreased odds of expecting to survive. In qualitative interviews, Brezina et.al. (2009) found that having low survival expectations "fostered feelings of powerlessness, worthlessness, and having nothing to lose" (p. 679). Low survival expectations feed into the cycle of violence. They are associated with risk-taking behaviors, including fighting, weapon use, delinquency, unsafe sexual behavior, HIV and AIDS transmission, and suicide attempts. Low survival expectations are also correlated with high homicide rates. In a study of the association between neighbourhood homicide rates and life expectancy, Wilson and Daly

(1997) found that life expectancy and homicide rates were highly and negatively correlated for both males and females. There is some evidence that these findings on survival expectations and high risk taking behaviour are relevant to the Canadian context. Statistics Canada (2011) reports "that exposure to crime or violence in a neighbourhood may increase the risk of delinquency for young people." Studies from Toronto and Saskatoon indicate that lower income communities are also less likely to provide children with safe places to play (Stone et. al. 2012; Loptson, Muhajarine, & Ridalls, 2012).

Parent-Child Relationships

Studies have documented anecdotal and empirical evidence of significant strain on parent-child relationships from exposure to community violence. Exposure to community violence often involves victimization or grief at the loss of family and friends. In the US, the high rates of exposure to violence for children growing up in some inner-city neighborhoods with pervasive violence have been well documented. Very few inner-city children in New Haven were able to avoid exposure to violence, and almost all 8th graders knew someone who had been killed. Exposure to community violence leads to times when support from parents and family members can help in several ways - having someone to talk with, providing companionship and by providing a sense of self-worth (Frieze, Hymer, and Greenber, 1987; Green & Pomeroy, 2007). Also, positive social support after victimization has been shown to be very important to traumatized victims (Cobb, 1976; Green & Pomeroy, 2007).

The literature describes a complex relationship between families and community violence. Strain on parent-child relationships can entail a deficit in the main social support network available to children (Lorion & Saltzman, 1993; Osofsky, Wewers, et al., 1993; Richters & Martinez, 1993). Early exposure to community violence means that children and their parents are learning to deal with loss and to cope with grieving for family members or friends who have been killed (Lorion & Saltzman, 1993). Several studies indicate a link between exposure to community violence at the infant and toddler stages and post-traumatic symptoms and disorders (Drell et al., 1993; Osofsky, Cohen, & Drell; Zeanah, 1994). Exposure to community violence can also undermine parenting processes. Parents unable to cope with exposure to community violence may have difficulty bonding with their children, were more likely to form an anxious-disorganized-disoriented attachment with their child rather than a secure one (Garbarino, Dubrow, Kostelny & Pardo, 1992; Osofsky 1995). Exposure to community violence also correlates with increased inter-family conflict (Richters and Martinez, 1993; Osofsky, Wewers, et al., 1993). Osofsky (1995) argues that this correlation indicates a need to study exposure to community violence and intrafamily conflict together in order to determine the combined impact on children.Denny (2010) argues that lower health status in lower income communities is caused by constant stress that stems from community violence, family turmoil, parental stress, and lack of household structure and routine. The stress in turn affects brain development and achievement. Denny states that more information is needed to understand the impact of these stressors and recommends a longitudinal study as well as increased mental health supports for young people.

Solutions

As well as describing the impacts of exposure to community violence the literature offers a number of solutions, which fall into two categories - individual supports and social change.

Individual Supports

Several studies describe the importance of support after victimization to reduce trauma and to break the cycle of violence (Cobb, 1976; Green & Pomeroy, 2007). Personal interviews with 175 victims of crime in Texas found that social support reduces anxiety, anger, and increased problem-focused coping (Cutrona and Russell, 1990). The authors argue that often victims of crime feel isolated. Social support can counteract these feelings by providing acceptance and comfort . Children's responses to violent crime are also ameliorated by social support and by family coping strategies (Berman, Kurtines, Silverman, & Serafini, 1996; Hill & Madhere, 1996).

Healing Hurt People (HHP) is a hospital-based violence intervention program in Chicago that helps people who have been violently injured to heal both physically and emotionally (Stolbach & Reese, n.d.). The program attempts to break the cycle of violence by promoting trauma recovery "to prevent clients' re-injury and mortality, reduce retaliation, and lessen involvement in the criminal justice system." As well as providing clinical care, the hospital provides education, employment, and mental health, medical and social services through trauma-informed practices. The program also runs Ignite Fire, a glass making art program for youth who have suffered traumatic exposure to violence.

Social Change

Researchers recommend reducing community violence and mitigating its impacts through social engagement in neighbourhoods to mitigate the impacts of poverty and residential instability (Morenoff, 2003). Morenoff (2003) found that social disorder - people drunk or taking drugs on the streets, drug dealing, hostile arguing, conflict and fighting, people loitering, rowdy groups and gang activity and street prostitution - creates fear and discourages walking, both of which contribute to the negative health impacts.

Research on several programs in the United States indicates that effective interventions often involve hiring local community members (Pearl & Reissman, 1965). Residents who are hired to support their neighbourhoods have a greater investment in the well-being of their communities, and related more effectively because they share similar cultural, class and racial backgrounds. One current program that hires local community members is Cure Violence, an anti-violence program created by epidemiologist Dr. Gary Slutkin in Chicago (www.cureviolence.org). Slutkin approaches violence from a public health perspective and argues that violence should be treated as a preventable disease rather than a moral crisis. Started in 2004, the program involves a specialist team of ex-convicts and former gang members called "The Interrupters" who mediate street disputes to stop the escalation to weapon use, injury and murder. After deploying two interrupters in a north-west Chicago neighbourhood that suffered 12 homicides in 2003, the neighbourhood had no homicides in 2004. Six evaluations of the program in four cities have found reductions in the number of

shootings from 20% to 73% and a 6% to 18% reduction in killings. The program has been adopted in eight countries.

Another program that engages community members in reducing violence is the Chicago Safe Passage program has veterans helping get 8,000 school children to school safely each day (Keady, 2015). The program is offered by Leave No Veteran Behind and pays off veterans' student debt in exchange for 100 to 400 volunteer hours while providing assistance with finding a job.

Neighbourhood Change

Stafford, Chandola and Marmot (2007) suggest that as well as advocating for measures that reduce crime, public health practitioners should support fear-reduction initiatives including clear sight lines, good lighting, providing information on true, rather than perceived crime risk, involving neighbours through Neighbourhood Watch programs.

Responses to Community Violence in Toronto

To address community violence, the City of Toronto provides individual supports, promotes social change and has plans and policies to promote neighbourhood changes. These responses, however, may be improved through a deeper understanding of the impacts of exposure to community violence and through an investigation of alternative approaches in other jurisdictions. It should also be noted that increases the actions of the city are set in the context of a growing gap between rich and poor, a trend that usually foreshadows greater levels of community violence (Wilkinson & Pickett, 2010).

Responses to Violent Crime

The city of Toronto coordinates response to crisis through the Community Crisis Response Program. The CCRP responded to 7900 violent incidents in 2016 involving 18,400 individuals (Victim Crisis Assistance Ontario, 2017) . The CCRP can dispatch the Community Crisis Intervention and Support Team operated by Toronto Public Health or for longer term strategies, refer incidents to Community Development Officers assigned to priority neighbourhoods. CCRP assists communities with workshops, developing community responses to crime, and supporting community development initiatives.

Toronto has long term social, economic and built environment plans to address community violence. Recognizing the concentration of poverty in inner suburban neighbourhoods, the city launched its Strong Neighbourhoods: A Call to Action in 2004, which marked 13 priority neighbourhoods for increased community space, facilities and programs. With the increasing concentration of poverty in more neighbourhoods, the city launched the Toronto Strong Neighbourhoods Strategy in 2014, which designated 31 neighbourhoods for assistance.

Among the longer term plans are the TO Prosperity: Poverty Reduction Strategy designed to support the 150,000 children growing up in poverty and the 15 neighbourhoods with poverty

rates of 40% or more (City of Toronto, 2015). The plan includes employment supports, expanding student nutrition programs and increasing access to transit by allowing children under 12 to ride the TTC for free. Another initiative, the Social Procurement Program, increases access to City contracts for businesses that are owned by, employ, or provide employment training to equity-seeking communities and low-income residents.

In Toronto, work is being done to reduce crime by identifying high crime areas using statistics Canada data. The City of Toronto (2014) identifies high crime areas to designate areas for crime prevention interventions at the provincial and federal levels and to provide extra funding for schools. This data is now available through the Ontario Community Health Profiles Partnership (2016), which describes crime prevention interventions. The Partnership does not, however, specifically mention addressing the impacts of exposure to community violence. Toronto is also making changes to the built environment. It is revitalizing some public housing areas by rebuilding them as mixed use residential communities including Regent Park, Lawrence Heights and Villaways (Bayview Village).

For its part, Toronto Police Services offer Community Police Academy, which offers free training to community members who want to learn how to keep their communities safer. Community Police Liaison Committees, which mobilizes communities to maintain safety and security, and Crime Prevention Through Environmental Design, which shows community members how to make their property safer by reducing opportunities for crime.

These initiatives, however, work against a backdrop of increasing poverty. Jobs are becoming more precarious. The percentage of part-time jobs has doubled over the past 30 years and now 23% of all jobs in Toronto are part-time, only 20% of unemployed workers qualify for employment insurance and Ontario Works rates have lost half of their value since the mid-1990s. In addition, Toronto public housing faces a $1.73 billion maintenance backlog, and there is a waiting list of 82,000 people.

Conclusion

Although the City of Toronto is taking measures to reduce violent crime and responds to crises created by violent crime, the growing gap between rich and poor indicates that crime and violent crime will continue to grow in the city without a major shift in the economic trend and a radically different approach to addressing community violence. Reviewing the literature it becomes clear that whether a city has 3,000 shootings per year as in Chicago, 400 as in Toronto, or 3 as in Helsinki, is the direct result of public policy. The literature clearly shows that from infancy to adulthood, exposure to community violence impacts health status separate from income status and other forms of disadvantage. Birth weight, preterm birth, depression, anxiety, PTSD, fear, anger, aggression and shortened life expectancy are some of the health impacts attributed to exposure to community violence in the literature. Calls to take a public health approach to community violence date back at least to the early 1990s (Koop & Lundberg, 1992). In Toronto, Khenti (2013) has also identified homicide among black youth as a public health crisis.

Exposure to community violence, therefore, does meet the World Health organization definition of a social determinant of health "the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness" (WHO, 2008). Exposure to community violence is generally treated as a criminal issue, a response that does not effectively reduce it or mitigate its impacts. It does little to address the discrimination, poverty, lack of services, and social disorder that are at root of community violence and it does little to break the cycle of violence. Consideration of community violence as a social determinant of health would encourage government and private sectors to develop policies to reduce community violence and mitigate its impacts.

A Personal Note

After conducting this research, I would argue that the most transformative perspective on community violence is that of Dr. Slutkin who formed "Cure Violence" in Chicago. Dr. Slutkin's approach, treating community violence like a contagious virus offers a deeper understanding and points to new directions for effective intervention. There are many stories of young men whose friend or brother was shot, who now carry a gun to protect themselves, or in some cases to get revenge. If we look at the map of shootings in Toronto we see clusters as you would see with any contagious illness. Unemployment, low income, lack of services, lack of transit, few community recreation opportunities - these factors are the breeding ground for community violence. Exposure to community violence is how the illness spreads. Like any other illness, community violence can only be cured through a deep understanding of it.

Recommendations

With the findings from the literature in mind, and in the, context of viewing exposure to community violence as a social determinant of health, the authors make the following recommendations:

1. The Toronto Board of Health declare exposure to community violence a social determinant of health.
2. The Board of Health commission an epidemiological study of exposure to community violence. Such a study would measure rates of exposure, impacts and family and social support responses in the wake of exposure to violence (See for example Attar, Guerra, & Tolan, 1994).
    a. The researchers recommend that participatory research methods that employ and engage local researchers be employed in order to avoid exacerbating power differentials between the communities being studied and the communities that hire the researchers. Hiring local researchers through participatory methods will also break down barriers to receiving information.
    b. The study should investigate the correlation between community violence and increased inter-family conflict to determine the combined impact on children. (Osofsky, 1995)

3. The Board of Health investigate the *Cure Violence* approach to addressing community violence. *The Interrupters*, a program developed by *Cure Violence* has a successful

track record achieved by hiring ex-convicts and other people with experience of community violence to mediate non-violent solutions to conflict in the community. The city should make use of the expertise of Toronto agencies that are run by or draw on the expertise of people with direct experience of community violence such as *Zero Gun Violence, Think Twice,* and *Deva-in-you*.

4. The Toronto Board of Health ask the City of Toronto to require head offices of city-funded agencies that serve low income communities be located in the communities they serve. Poverty in Toronto is increasingly clustered in the northwest and southeastern sections of the city. Yet most city-funded agencies have their head offices downtown. This means that the head office employment opportunities in these agencies are not in the locations of the communities they serve, and the agencies are not in the best position to understand the needs of the communities they serve.
5. The City of Toronto investigate public health approaches to get guns off the streets. If guns are a virus, how do we stop the transmission of this illness? The investigation should begin by asking those who have or have had guns for solutions.
6. The Board of Health ask Council to create recreational centres in poorly served sections of the city. Young people need a safe place to go to hang out where there are positive adult role models. Community Centres, indoor swimming pools and boys and girls clubs are disproportionately concentrated in the downtown core. The low income communities in the northwest and southeast are poorly served, compounding disadvantage, leaving young people with no place to go and, ultimately, contributing to community violence.

References

Aljazeera (2016). *Survival Mode: Growing up with violence* [Video]. Fault Lines. Retrieved July 6, 2016 from: http://www.aljazeera.com/programmes/faultlines/2016/02/survival-mode-growing-violence-160217074144743.html

Attar, B. K., Guerra, N. G., & Tolan, P. H. (1994). Neighborhood disadvantage, stressful life events and adjustments in urban elementary-school children. *Journal of Clinical Child Psychology, 23*(4), 391-400.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.

Benhorin, S., & McMahon, S. D. (2008). Exposure to violence and aggression: Protective roles of social support among urban african american youth. *Journal of Community Psychology, 36*(6), 723-743.

Berman, S. L., Kurtines, W. M., Silverman, W. K., & Serafini, L. T. (1996). The impact of exposure to crime and violence on urban youth. *American Journal of Orthopsychiatry, 66*(3), 329-336.

Bryant, T., Raphael, D., Schrecker, T., & Labonte, R. (2011). Canada: A land of missed opportunity for addressing the social determinants of health. *Health Policy, 101*(1), 44-58.

Centre for Disease Control (2016). *Reproductive health: Preterm Birth.* Retrieved from: http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm

Chau, S.B. (2006). *The effects of exposure to violence on the health and well-being of homeless youth in inner city Toronto:an ecological approach.* Thesis (Ph.D.)University of Toronto.

City of Toronto (2014). *Neighbourhood Boundaries v.2.* Social Development & Administration Division. Retrieved Aug 8, 2016 from: http://www.torontohealthprofiles.ca/a_documents/aboutTheData/0_0_NeighbourhoodCreationMethodology.pdf

City of Toronto (2015). TO Prosperity: Poverty Reduction Strategy. Retrieved from: https://www.toronto.ca/wp-content/.../08/96b9-TO_Prosperity_Final2015-reduced.pdf

Cobb, S. (1976). Social support as a moderator to life stress. *Psychosomatic Medicine*, 38: 300–314.

Coleman, J. (1990). Foundations of social theory. Cambridge, MA: Harvard University Press

Côté-Lussier, C., Fitzpatrick, C., Séguin, L., & Barnett, T. A. (2015). Poor, unsafe, and overweight: The role of feeling unsafe at school in mediating the association among poverty exposure, youth screen time, physical activity, and weight status. *American Journal of Epidemiology, 182*(1), 67-79.

Cure Violence (n.d.). Cure Violence: A new solution for violence. Retrieved from: http://cureviolence.org/

Cutrona, C. E., & Russell, D. (1990). Type of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view*. New York: Wiley.

Denny, K., & Brownell, M. (2010). Taking a Social Determinants Perspective on Children's Health and Development.*Can J Public Health, 101*(9), S4-S7. doi:http://dx.doi.org/10.17269/cjph.101.2396

Dupere, V., Leventhal, T., & Vitaro, F. (2012). Neighborhood Processes, Self-Efficacy, and Adolescent Mental Health. *Journal of Health and Social Behavior, 53*(2), 183-198.

Eth, S., & Pynoos, R. (1985). Developmental perspective on psychiatric trauma in childhood. In C. Figley (Ed.)*Trauma and its wake* (pp. 36-52). New York: Brunner/Mazel.

Ewon, C.; Stoddard, S;; Heinze, J.; Zimmerman, M. (2015). *Predicting violent behavior: The role of violence exposure and future educational aspirations during adolescence*. Journal of adolescence , 2015 , Volume 44 , pp. 191 - 203

Frederick, C. (1985). Children traumatized by catastrophic situations. In S. Eth & R. Pynoos (Eds.) Post-traumatic stress disorder in children (pp.73-99). Washington, DC: American Psychiatric Press.

Freeman, L. N., Mokros, H., & Poznanski, E. O. (1993). Violent Events Reported by Normal Urban School-Aged Children: Characteristics and Depression Correlates. *Journal of the American Academy of Child & Adolescent Psychiatry, 32*(2), 419-423.

Freeman, L. N., Shaffer, D., & Smith, H. (1996). Neglected victims of homicide: The needs of young siblings of murder victims. *American Journal of Orthopsychiatry, 66*(3), 337-345.

Frieze, I., Hymer, S. and Greenberg, M. (1987). Describing the crime victim: Psychological reactions to victimization. *Professional Psychology: Research and Practice*, 18: 299–315.

Garbarino, J., Dubrow, N., Kostelny, K., & Pardo, C. (1992). Children in danger: Coping with the consequences of community violence. San Francisco: Jossey-Bass.

Gardner, G. E. (1971). Aggression and Violence—the Enemies of Precision Learning in Children. *American Journal of Psychiatry AJP, 128*(4), 445-450.

Gecas, V. (1989). The social psychology of self-efficacy. Annual Review of Sociology, 15, 291–316.

Giurgescu, C., Zenk, S. N., Dancy, B. L., Park, C. G., Dieber, W., & Block, R. (2012). Relationships among neighborhood environment, racial discrimination, psychological distress, and preterm birth in african american women. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 41*(6), E51-E61.
Green, D. L., Streeter, C., & Pomeroy, E. (2005). A multivariate model of the stress and coping process for victims of crime. *Stress, Trauma, and Crisis, 8*(1), 61-73.

Gray, Andrew Paul,M.D., M.Sc, Richer, Faisca,M.D., M.Sc, & Harper, S., PhD. (2016). Individual- and community-level determinants of inuit youth mental wellness. *Canadian Journal of Public Health, 107*(3), 251-257

Green, D. L., Streeter, C., & Pomeroy, E. (2005). A multivariate model of the stress and coping process for victims of crime. *Stress, Trauma, and Crisis, 8*(1), 61-73.

Green, D. L., & Pomeroy, E. C. (2007). Crime Victims. *Journal of Aggression, Maltreatment & Trauma, 15*(2), 97-113.

Hagan, J., Macmillan, R., & Wheaton, B. (1996). New kid in town: Social capital and the life course effects of family migration on children. American Sociological Review, 61, 368–385.

Irwin, A., & Scali, E. (2007). Action on the social determinants of health: A historical perspective. *Global Public Health, 2*(3), 235-256. doi:10.1080/17441690601106304

Keady, C. (April 13, 2015). These Veterans Help 8,000 Chicago Students Get To School Safely Each Day. *The Huffington Post.* http://www.huffingtonpost.com/2015/04/13/chicago-veterans-keep-streets-safe_n_7028830.html

Koop CE, Lundberg GO (1992), Violence in America: a public health emergency. lAMA 267:3075-3076

Khenti, A. A. (2013). Homicide among young black men in Toronto: an unrecognized public health crisis? *Canadian Journal of Public Health,* 104(1)

Loptson, K., Muhajarine, N., & Ridalls, T. (2012). Walkable for Whom? Examining the Role of the Built Environment on the Neighbourhood-based Physical Activity of Children. *Can J Public Health,* 103(9), eS29-eS34. doi:http://dx.doi.org/10.17269/cjph.103.3232

Lorion, R., & Saltzman, W. (1993). Children's exposure to community violence: Following a path from concern to research to action. Psychiatry, 56, 55-65.

McDonald, C. C., & Richmond, T. R. (2008). The relationship between community violence exposure and mental health symptoms in urban adolescents. *Journal of Psychiatric and Mental Health Nursing, 15*(10), 833-849

Macmillan, R., & Hagan, J. (2004). Violence in the Transition to Adulthood: Adolescent Victimization, Education, and Socioeconomic Attainment in Later Life. *Journal of Research on Adolescence J Research on Adolescence, 14*(2), 127-158.
Masi, C.M., Hawkley, L.C., Piotrowski, Z.H., Pickett, K.E. (2007). Neighborhood economic disadvantage, violent crime, group density, and pregnancy outcomes in a diverse, urban population. *Science Direct.* Retrieved from: https://www.ncbi.nlm.nih.gov/pubmed/17765371

McCoy, D. C., Raver, C., Sharkey, P. (2015). Children's Cognitive Performance and Selective Attention Following Recent Community Violence. *Journal of Health and Social Behavior* vol. 56 #1, pp. 19-36. Retrieved Aug 16, 2016 from: https://docs.google.com/document/d/1b48ahuQLrzgKocUlXvI0X1-eOzEhMu8GyQ84jWDCgUo/edit

Messer, L. C., Kaufman, J. S., Dole, N., Savitz, D. A., & Laraia, B. A. (2006). Neighborhood crime, deprivation, and preterm birth. *Annals of Epidemiology, 16*(6), 455-462.

Mikkonen, J., & Raphael, D. (2010). *Social determinants of health: The Canadian facts*. Toronto: York University School of Health Policy and Management.
pp 62 available from http://www.thecanadianfacts.org

Morenoff, J. (2003). Neighbourhood mechanisms and the spatial dynamics of birth weight. American Journal of Sociology; 108(5), 976-1017

Nader, K., Pynoos, R., Fairbanks, L., & Frederick, C.(1990). Children's PTSD reaction one year after a sniper attack at their school. American Journal of Psychiatry,147, 1526-1530.

Native Women's Association of Canada (2015). Social Determinants of Health and Canada's Aboriginal Women. Retrieved March 26 from: http://www.nwac.ca/wp-content/uploads/2015/05/2007-Social-Determinants-of-Health-and-Canada%E2%80%99s-Aboriginal-Women-NWAC-Submission-to-WHO-Commission.pdf

Ontario Community Health Profiles Partnership (May 2016). Ontario Health Profiles. Retrieved Aug 8, 2016 from: http://www.ontariohealthprofiles.ca/

Osofsky, J. D. (1995). The effects of exposure to violence on young children. *The Evolution of Psychology: Fifty Years of the American Psychologist.*, 725-740.

Osofsky, J., Wewers, S., Hann, D., & Fick, A. (1993). Chronic community violence: What is happening to our children? *Psychiatry*, 56, 3 6-4 5.

Pearl A. and Reissman, F. (1966). *New careers for the poor: the nonprofessional in human service*. New York: Free Press.

Public Health Agency of Canada (PHAC) (2011). What determines health? Retrieved March 26, 2016 from: http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#social1

Pynoos, R. S., & Nader, K. (1990). Children's Exposure to Violence and Traumatic Death. *Psychiatric Annals, 20*(6), 334-344.

Pynoos, R. S., Steinberg, A. M., & Piacentini, J. C. (1999). A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biological Psychiatry, 46*(11), 1542-1554.

Schwab-Stone, M. E., Ayers, T. S., Kasprow, W., Voyce, C., Barone, C., Shriver, T., & Weissberg, R. P. (1995). No Safe Haven: A Study of Violence Exposure in an Urban Community. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(10), 1343-1352.

Slaby, R. (1997). Psychological mediators of violence in urban youth. In J. McCord (Ed.), Violence and childhood in the inner city (pp. 171-206). New York: Cambridge University Press.

Sharp, C.S.J. (2002). Middle school-age children's experience of living with chronic violence and the implications for mental health intervention: A phenomenological hermeneutic analysis (Doctoral dissertation). Retrieved from ProQuest Information & Learning.

Stafford, M.; Chandola, T.; Marmot, M. (2007). Association between fear of crime and mental health and physical functioning. American Journal of Public Health 2007 Volc 97, # 11, pp. 2076-2081. Retrieved July 6, 2016 from: http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2006.097154

Statistics Canada (2007). Health Reports (82-003-X). Vol. 18 #4. Retrieved from: http://www.statcan.gc.ca/pub/82-003-x/2006010/article/birth-naissance/4060735-eng.htm

Statistics Canada (2009). Ranking and number of deaths for the 10 leading causes of death by age group, males (84-215-X). Retrieved from: https://www.statcan.gc.ca/pub/84-215-x/2012001/table-tableau/tbl004-eng.htm

Stinson, K., Garbarino, J., Kostelny, K., & Dubrow, N. (1994). No Place to Be a Child: Growing up in a War Zone. *Human Rights Quarterly, 16*(3), 586.

Stoddard, S. A., Heinze, J. E., Choe, D. E., Zimmerman, M. A. (2015). Predicting violent behavior: The role of violence exposure and future educational aspirations during adolescence. *Journal of Adolescence, 44*, 191-203. doi:http://dx.doi.org/10.1016/j.adolescence.2015.07.017

Stolbach, B. & Reese, C. (n.d.) Healing Hurt People - Chicago. Retrieved from: http://healinghurtpeoplechicago.org/

Taylor-Butts, A. (2004). Household Income and Victimization in Canada, 2004. Canadian Centre for Justice Statistics Profile Series. Statistics Canada. Retrieved July 6, 2016 from: http://www.statcan.gc.ca/pub/85f0033m/85f0033m2009020-eng.pdf

Swisher, R. R., & Warner, T. D. (2013). If they grow up: Exploring the neighborhood context of adolescent and young adult survival expectations. *Journal of Research on Adolescence, 23*(4), 678-694.

Toronto Police Service (2017).Shootings. Public Safety Data Portal. https://app.powerbi.com/view?r=eyJrIjoiNzA4ZmZhMzctMGJlMC00NTVmLWE4NjktYWRmZDUyMGJiMGFjIiwidCI6Ijg1MjljMjI1LWFjNDMtNDc0Yy04ZmI0LTBmNDA5NWFlOGQ1ZCIsImMiOjN9

Toronto Public Health (2015). The Unequal City 2015: Income and Health Inequities in Toronto. Retrieved April 3, 2016 from: http://www.toronto.ca/legdocs/mmis/2015/hl/bgrd/backgroundfile-79094.pdf

Victim Crisis Assistance Ontario (2017). Schedule D: Quarterly Statistical Reports 2016-17 Fiscal Year.

Warner, B. S., & Weist, M. D. (1996). Urban youth as witnesses to violence: Beginning assessment and treatment efforts. *J Youth Adolescence Journal of Youth and Adolescence, 25*(3), 361-377.

Wilkinson, R. G., & Pickett, K. (2010). *The spirit level: Why greater equality makes societies stronger*. New York: Bloomsbury Press

World Health Organization (2008). Final Report of the Commission on the Social Determinants of Health. Retrieved March 25, 2016 from: http://www.who.int/social_determinants/thecommission/finalreport/en/