

CASE 9

Gun Violence: A Public Health Issue?

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Sarah Smith is a registered nurse who works in the emergency department at Toronto's Sunnybrook Hospital and regularly volunteers at the Centre for Injury Prevention (CFIP) on several projects. It is the middle of July and she has just finished another busy shift at the hospital. She gets home from caring for several patients admitted with traumatic injuries only to find the local news describing another brutal gun-related incident in the City. Over the past five years, she has observed an alarming trend both at work and in the media of increasing gun-related injuries and fatalities in the City of Toronto. Disheartened and curious, she sets out to complete a rapid review of the literature and any available data she can find about this issue.

Sarah understands that gun-related crimes, injuries, and fatalities are a complex problem and that she alone will not find a way to end gun violence; however, she may be able to help address the issue in Toronto through other approaches. Through her research and by looking at the Toronto Police Service's firearm-related violence data, she realizes some communities in the city are disproportionately affected by these incidents. In the hope of gaining a better understanding about how gun injuries can be prevented, how the social determinants of health affect these incidents, and how she can help address gun violence in the city, Sarah has reached out to her colleague Amanda at the CFIP.

Through her work at the CFIP, Sarah knows that the Centre's focus is on preventing injury-related deaths and traumatic injuries across the lifespan. The CFIP's mission is to reduce intentional and unintentional serious and fatal injuries through collaboration, advocacy, research and education (Stop The Bleed, 2021). After speaking to Amanda and the supportive team at the CFIP, Sarah learns they have been looking to expand their Stop the Bleed program—an initiative that trains citizens to manage massive bleeding in any victim who has suffered a traumatic injury—to at-risk communities affected by gun violence. Amanda suggests Sarah lead this Stop The Bleed expansion plan. Sarah will need to use her knowledge and experience as a Stop the Bleed course instructor to create a realistic program expansion plan. Sarah cannot wait to get started. She believes this is a great chance to improve community relations while implementing a valuable initiative; however, she knows this will be a challenging endeavour.

BACKGROUND

Gun violence is a worsening problem in Toronto. In 2019 alone, there were 492 shooting incidents and 284 people injured or killed by guns (Toronto Police Service, 2020a). The highest profile gun-related incident that year occurred in June after the Toronto Raptors NBA championship parade, and this incident affected many people both physically and mentally. Since 2014, the number of gun-related incidents and the number of people killed or injured from these incidents has more than doubled (Exhibit 1) (Toronto Police Service, 2020a). The City of

Toronto, emergency medicine professionals, and gun control advocates are trying to determine what they can do to help address the sudden surge in gun crime.

CITY OF TORONTO AND BLACK CREEK

City of Toronto

With a population of almost three million people, Toronto is Canada's largest city and the fourth largest city in North America (City of Toronto, 2019). Toronto's residents come from diverse cultures and backgrounds, making it one of the most multicultural urban centres in the world (City of Toronto, 2019). Toronto is a world leader in finance, business, entertainment, technology, and culture (City of Toronto, 2019). It is ranked as one of the safest cities in North America; however, in 2018, there was a significant spike in gun violence and gun-related homicides within the city (City of Toronto, 2018). City of Toronto research has shown that several factors have increased the involvement of youth in this gun violence (City of Toronto, 2018).

The factors that contribute to youth violence and increased youth involvement in gun violence include (City of Toronto, 2018):

- Increasing social media prevalence promoting gang culture, which can lead to retaliatory responses to victimization and violence
- Lack of programs to support youth reintegration after they exit gang life or incarceration
- Changes to gang structure, impacting gang decision-making and leadership
- Increased drug use
- Increased rates of complex mental health challenges and few culturally appropriate services
- Lack of emergency housing for families affected by violence
- Limited coordination of culturally relevant social supports and inadequate investment in resident engagement in social housing communities
- Difficulty engaging and reaching youth who have been failed by social systems such as education and employment

The City of Toronto is committed to providing safe and inclusive neighbourhoods. As a result of the complex nature of gun and gang violence, city representatives are working closely with community stakeholders and marginalized and vulnerable populations to build community capacity and provide direct interventions (City of Toronto, 2018). Given the alarming increase in gun violence, the City has partnered with several community organizations, law enforcement agencies, and non-profit groups to develop violence-prevention initiatives aimed at risk intervention and reducing the vulnerability to serious crime (City of Toronto, 2018). Some of these strategies include the Toronto Youth Equity Strategy, Toronto Youth Partnerships & Employment, Toronto Strong Neighbourhood Strategy 2020, the Community Safety and Well-being Unit in Social Development/Finance and Administration, Community Crisis Response Program (CCRP), and Furthering Our Community by Uniting Services (FOCUS) (City of Toronto, 2018).

The CCRP and FOCUS are particularly important initiatives that address youth violence and victim support. Specifically, the CCRP focuses on supporting communities that have been affected by traumatic and violent incidents, aiming to provide assistance with healing and recovery. The CCRP offers victim and psychosocial support, neighbourhood outreach, counselling, conflict de-escalation, and safety planning services (City of Toronto, 2018). FOCUS is a youth violence prevention plan, led jointly by the United Way, Toronto Police Service, and the City of Toronto, that aims to reduce the percentage of youth becoming involved in crime and

victimization. The group meets weekly with local community agencies to review risks, implement plans, and administer and monitor any implemented interventions.

Black Creek Neighbourhood

The Black Creek Neighbourhood is one of many at-risk communities within the City of Toronto. The Black Creek neighbourhood (Exhibit 2) is an approximately 3 km² area in the City of Toronto that has 21,737 residents and a population density of 6,282 people/km² (City of Toronto, 2016). During the 2016 City of Toronto census of the Black Creek neighbourhood, 49% of respondents reported they spoke a nonofficial language as their mother tongue, and 38% reported that they spoke a nonofficial language as their primary language at home (City of Toronto, 2016). The census reported 33.5% of residents lived below the poverty line and the median household income was \$46,580, which was \$19,249 lower than the median household income for the City of Toronto (City of Toronto, 2016). More than 77% of families in the area live in unsuitable housing, unaffordable housing, or inadequate housing (City of Toronto, 2016). Finally, 33% of the people residing in the Black Creek neighbourhood have no certificate, diploma, or degree, and only 29% of respondents indicated they have a secondary school diploma (City of Toronto, 2016).

GUN VIOLENCE

Gun violence is a complicated public safety and public health issue. Since 2014, the rates of gun violence have been increasing in the City of Toronto (City of Toronto, 2018). Although gun-related incidents are often associated with criminal activity, they are also associated with the social burdens of routine violence and neighbourhood destruction (Cook & Ludwig, 2019). In addition to injury and death, gun violence is a major source of emotional trauma that can negatively impact the mental health of residents living in communities that have a high incidence of gun violence, resulting in chronic stress and other health issues (City of Toronto, 2018; Cook & Ludwig, 2019). Additionally, living in a community where gun violence is a “normal” event can result in feelings of abandonment by societal institutions such as schools and the police (Francis, 2018).

Residents who are not perpetrators of gun-related crimes and live in communities affected by high rates of gun-related violence often experience feelings of hypervigilance, fear, hopelessness, powerlessness, isolation, anxiety, anger, and emotional numbing (Francis, 2018). Research has also shown that people who live in poverty and have witnessed or have been a victim of a gun crime are more likely to be a perpetrator of firearm violence themselves (Francis, 2018). Therefore, living in an environment of constant threat and feeling a lack of safety can lead to one’s involvement in firearm use and criminal activity (Riley et al., 2017).

Youth-involved violence is a complex issue that has its roots in poverty and systemic racism (City of Toronto, 2018). Young adults have historically demonstrated they are more involved in gun violence than any other age demographic (City of Toronto, 2018). Having to live in constant fear can lead to poor educational outcomes for children and this can have severe consequences on their long-term mental health (City of Toronto, 2018). A study by Nanney, Conrad, McCloskey, & Constans (2015) showed that some youth view carrying a gun as a protective mechanism to discourage assailants. However, carrying a gun can also increase the chances that others are armed in the same way, which increases the likelihood of injury. Research clearly shows that day-to-day living conditions and experiences—the social determinants of health—are important determinants of injury (Atlantic Collaborative on Injury Prevention, 2011). Effective strategies that aim to reduce and prevent injury demand the consideration of an individual’s home, work, and community environment, as well as their personal, educational, social, and economic resources (Atlantic Collaborative on Injury Prevention, 2011).

Therefore, a multisectoral approach involving key stakeholders and community members is crucial to developing and implementing strategies to decrease gun-related violence. This approach could be helpful in rebuilding trust between authority figures such as the police and the community members in at-risk communities. In 2017, the City of Toronto formed a Gang Prevention Task Force in response to the increase in gang and gun violence (Toronto Police Service, 2020b). Reducing and preventing gang violence is a multifaceted problem that requires addressing the underlying causes and risk factors associated with violence, and requires the resources of law enforcement agencies, the legal system, and various community partners. The government also needs to continue investing in youth, families, and neighbourhoods to address the root causes of gun violence. However, empowering laypeople in communities disproportionately affected by gun violence to provide lifesaving interventions during a traumatic event may be an effective way to reduce mortality and improve rates of survival in victims of violence and gun-related trauma.

SUNNYBROOK HOSPITAL AND THE CENTRE FOR INJURY PREVENTION

Sunnybrook Hospital is Canada's first regional trauma centre and is recognized as a leader in trauma care (Sunnybrook Health Sciences Centre, 2021a). The hospital strives to provide specialized care to critically injured adults, to educate patients and their families, and to be a leader in injury prevention through education, advocacy, and research (Sunnybrook Health Sciences Centre, 2021a).

The CFIP was established in 1986 at Sunnybrook Hospital's Tory Trauma Program (Sunnybrook Health Sciences Centre, 2021b). This organization aims to prevent injury-related mortality and prevent traumatic injuries across the lifespan through collaboration, research, innovation, and community education (Sunnybrook Health Sciences Centre, 2021b). The CFIP is a leader in injury prevention at all levels through the delivery of multiple resources and programs both independently and with a team of collaborators (Sunnybrook Health Sciences Centre, 2021b). The Centre has established several injury-prevention initiatives such as the P.A.R.T.Y. program, iNavigait, Play Safe, and the Stop the Bleed program (Sunnybrook Health Sciences Centre, 2021b). Sarah has identified the Stop the Bleed program as an initiative that could help address gun violence in at-risk communities that are disproportionately affected by this problem.

STOP THE BLEED PROGRAM

The Stop the Bleed program is a secondary prevention measure that was created by the American College of Surgeons after the Sandy Hook Elementary School shooting. Several stakeholders, including emergency medicine, law enforcement, and government experts, developed recommendations on how to improve the survival rates of people suffering from severe bleeding (Stop the Bleed, 2021). The recommendations are known as the Hartford Consensus because two of the first meetings were held in Hartford, Connecticut. The goal of the Stop the Bleed program is to improve the rate of victim survival during and after mass shootings and other acts of mass violence. The program aims to empower laypeople to become immediate responders by taking lifesaving action and managing massive bleeding in critical incidents until emergency medical professionals arrive, regardless of the situation or cause (Stop the Bleed, 2021).

Massive bleeding as a result of any cause can lead to death within five to 10 minutes if the bleeding remains uncontrolled and medical responses are delayed (Sunnybrook Health Sciences Centre, 2021c). People participating in the Stop the Bleed course are taught the proper techniques for controlling bleeding and are certified in doing this by using dressings, tourniquets, and their own hands (Stop the Bleed, 2021). As the largest trauma centre in

Canada, Sunnybrook Hospital was a natural fit for the initiative and is the first hospital in the country to offer this unique training opportunity.

HADDON MATRIX

Developed by William Haddon in 1970, the Haddon Matrix is a tool to assist in the creation of injury prevention ideas (Runyan, 2015). This framework helps the user understand the origin of injuries and identify interventions that can be used to address them (Runyan, 2015). Users of the matrix then need to determine which interventions and alternatives to apply in the development of their injury prevention program. A Haddon Matrix is created by listing the pre-event, event, and post-event phases in three rows, and listing the host, agent/vehicle, physical environment, and social environment in four columns (Runyan, 2015).

Amanda has previously discussed the Haddon Matrix with colleagues as a way for developing creative measures to address gun violence, and she has used this framework to understand an injury problem and create injury prevention programs. Although the aim of the project is to expand the Stop the Bleed program to at-risk communities, she suggests Sarah uses the matrix to ensure she truly understands the issue of gun violence and related injuries, and the possible interventions that can be implemented to address the issue beyond the Stop the Bleed program itself.

TRAUMA-INFORMED APPROACH

Sarah understands at-risk communities are disproportionately affected by traumatic incidents and living in communities regularly affected by traumatic incidents can affect individuals in a multitude of ways. The Substance Abuse and Mental Health Services Administration (SAMHSA) and the Centers for Disease Control and Prevention have developed a new approach to the role of trauma-informed care during public health emergencies (Centers for Disease Control and Prevention, 2020). The CFIP team recommends that Sarah use SAMHSA's (2014) six guiding principles (Exhibit 3) to develop a trauma-informed approach to her program:

1. **Safety:** the staff and individuals they serve feel psychologically and physically safe.
2. **Trustworthiness and transparency:** decisions are made with the goal of building and maintaining trust with individuals, communities, staff, and anyone else involved.
3. **Peer support:** peer support and self-help are key for creating feelings of safety and hope, enhancing collaboration, building trust, and using lived experiences to emphasize healing and recovery.
4. **Collaboration and mutuality:** partnering and levelling the power imbalance between individuals and staff because everyone has a role to play.
5. **Empowerment, voice, and choice:** individual experiences and strengths are built on; the organization believes in a community environment and an individual's resilience and ability to heal and recover from traumatic events.
6. **Cultural, historical, and gender issues:** programs need to move past stereotypes and biases, and incorporate protocols and processes that respond to the ethnic, racial, and cultural needs of the individuals it serves.

SAMHSA (2014) defines individual trauma as resulting from "an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being (p.11)." Using a trauma-informed approach means identifying and understanding how trauma can affect individuals, families, and communities (SAMHSA, 2014). Programs and organizations need to recognize the signs of trauma and respond by applying the principles of a trauma-informed approach to all areas of care

(SAMHSA, 2014). Further, using a trauma-informed approach means preventing the retraumatization of individuals by avoiding the triggering of painful memories (SAMHSA, 2014).

Sarah realizes the residents of the at-risk communities she will be working with may benefit from the application of a trauma-informed approach to her program expansion plan. However, she has never planned a program using these principles. As she plans the Stop the Bleed expansion, Sarah makes sure to incorporate a trauma-informed approach. Teaching the course with this approach in mind will require Sarah's increased awareness, attention, sensitivity, and a possible cultural change. Sarah's previous experience involved teaching the course only to law enforcement officers; therefore, she will need to take a new approach when facilitating Stop the Bleed training in at-risk communities. It is vital that she brings forth an understanding attitude, uses appropriate and sensitive language, and does not "blame the victim."

SARAH'S TASK

Sarah has been given the opportunity to collaborate with the City of Toronto, the CFIP, and the Black Creek Community Health Centre (a local community health centre) to expand the Stop the Bleed program to at-risk neighbourhoods that are disproportionately affected by gun-related injuries and fatalities.

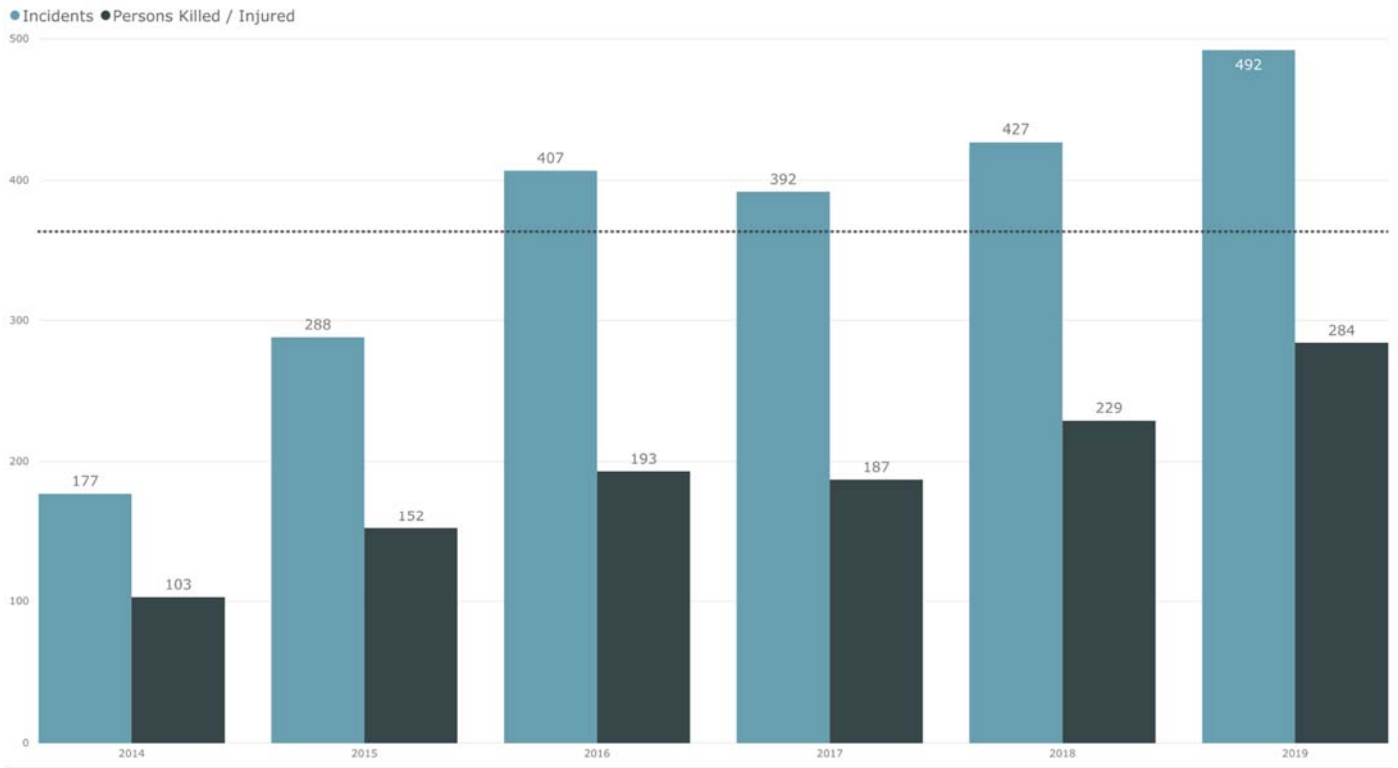
Sarah needs to complete a program planning and expansion proposal using evidence-informed decision-making, a trauma-informed approach, and the Haddon Matrix to ensure the expansion is realistic, beneficial, and financially feasible.

Sarah will present her program expansion plan to the CFIP, the leadership committee at the Black Creek Community Health Centre, and representatives from the City of Toronto. She will need to complete a literature review and the program planning process, as well as an environmental scan, a logic model, a budget expenditure estimate, and a workflow chart. Sarah will need to engage stakeholders and communities in a meaningful way in order to ensure the success of the program. It will also be important that she consider the community's demographics and experiences in all aspects of program planning.

CONCLUSION

Although there are clear benefits to expanding this secondary injury prevention measure, if the program expansion is too stigmatizing it could be harmful to people living in at-risk communities. Knowing at-risk communities and their residents are often stigmatized, should Sarah continue with the program expansion despite this possible stigmatization as long as gun-violence related deaths can be prevented? Although there are some potential program pilot sites and significant interest in the program from the City of Toronto, the benefits and disadvantages of this expansion must be considered. Sarah now has four weeks to complete a program expansion plan and present it to the CFIP, the City of Toronto's representatives, and the leadership committee at Black Creek Community Health Centre. These stakeholders will then decide whether to pilot the Stop the Bleed program in Toronto's at-risk communities.

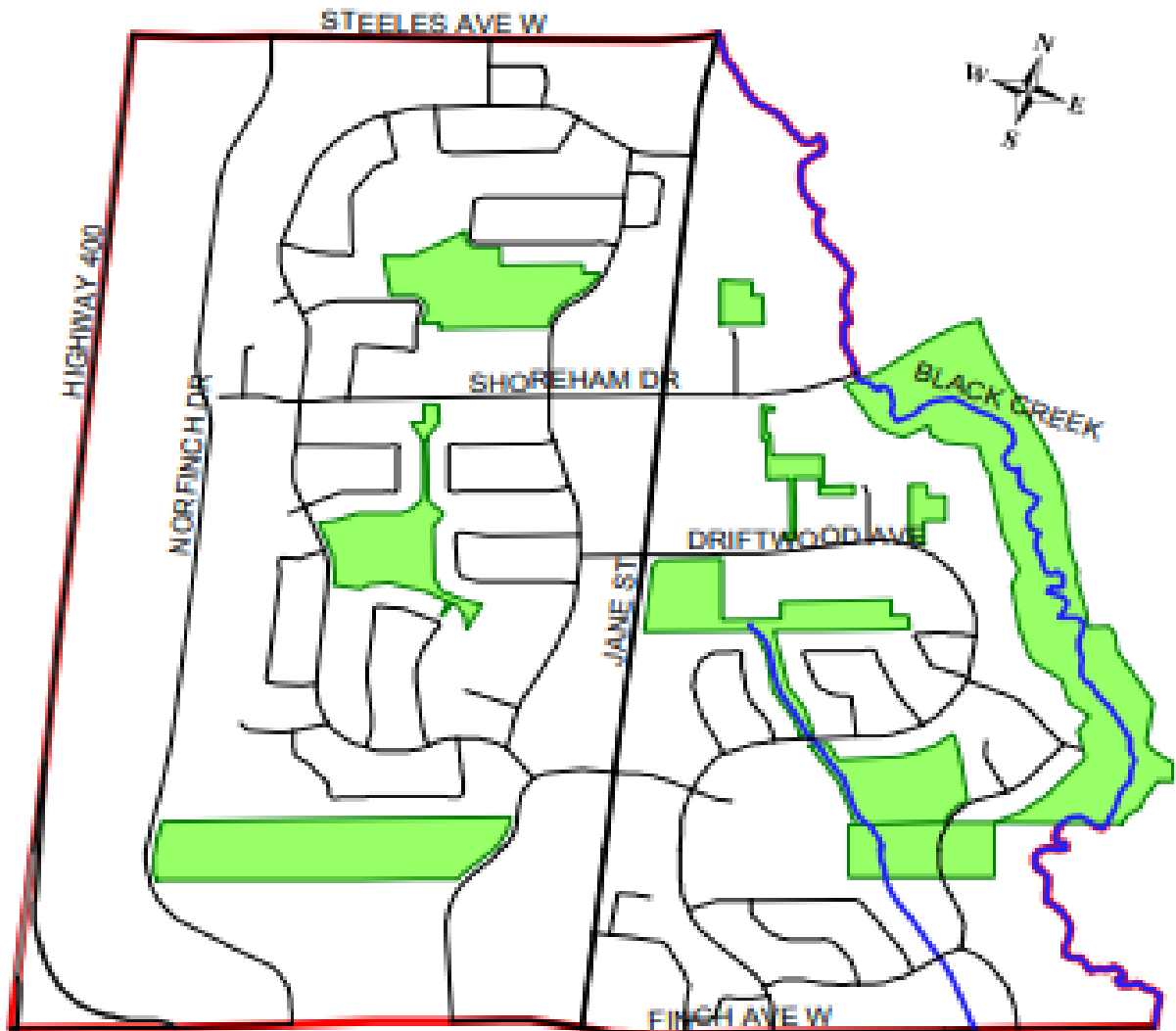
EXHIBIT 1
Shootings and Firearm Discharge Incidents and Injuries in Toronto from 2014 to 2019



Source: Toronto Police Service, 2020b.

EXHIBIT 2
City of Toronto Neighbourhood Profile #24—Black Creek

Black Creek



Source: City of Toronto, 2016.

EXHIBIT 3

Centers for Disease Control and Prevention Guide to a Trauma-Informed Approach

6 GUIDING PRINCIPLES TO A TRAUMA-INFORMED APPROACH

The CDC's Office of Public Health Preparedness and Response (OPHPR), in collaboration with SAMHSA's National Center for Trauma-Informed Care (NCTIC), developed and led a new training for OPHPR employees about the role of trauma-informed care during public health emergencies. The training aimed to increase responder awareness of the impact that trauma can have in the communities where they work. Participants learned SAMHSA'S six principles that guide a trauma-informed approach, including:



Adopting a trauma-informed approach is not accomplished through any single particular technique or checklist. It requires constant attention, caring awareness, sensitivity, and possibly a cultural change at an organizational level. On-going internal organizational assessment and quality improvement, as well as engagement with community stakeholders, will help to imbed this approach which can be augmented with organizational development and practice improvement. The training provided by OPHPR and NCTIC was the first step for CDC to view emergency preparedness and response through a trauma-informed lens.

Source: Centers for Disease Control and Prevention, 2020.

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INSTRUCTOR GUIDANCE

Gun Violence: A Public Health Issue?

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BACKGROUND

Gun violence is a growing concern in the City of Toronto. The number of injuries and fatalities related to firearm incidents has been increasing at an alarming rate over the past six or seven years. The Stop The Bleed program is a secondary injury prevention program aimed at training laypeople how to respond during critical incidents to prevent fatal outcomes caused by massive bleeding. Along with the Centre for Injury Prevention at Sunnybrook Hospital, Sarah Smith, a registered nurse working in the hospital's emergency department, has been given the opportunity to collaborate with multiple stakeholders, including the Black Creek Community Health Centre and the City of Toronto, to pilot a Stop The Bleed expansion program in the city's at-risk communities. Sarah is aware that several complex variables intertwine to comprise this public health issue and she knows that a multifaceted approach is needed to try to stop deaths resulting from gun violence entirely. However, to determine whether the program expansion is feasible, Sarah must complete a comprehensive planning process that considers the facilitators and barriers to program implementation, including the stigmatization of at-risk communities.

OBJECTIVES

1. Understand the principles and steps involved in the program expansion planning, implementation, and evaluation.
2. Develop a program expansion logic model for the Stop The Bleed program using evidence-informed decision-making.
3. Apply Haddon's Matrix, a trauma-informed approach, and evidence-informed decision-making to plan a program for a complex problem.
4. Identify the facilitators and barriers to working with at-risk communities and explain how health inequities contribute to community/population health.
5. Understand the importance of stakeholder engagement and the consideration of community priorities when designing and implementing this type of program.

DISCUSSION QUESTIONS

1. What are the important principles to consider when completing program planning, implementation, and evaluation?
2. Are there benefits to completing an environmental scan before developing the program plan? Why or why not?
3. What social determinants of health should be considered when planning this program? How do health inequities contribute to community/population health and the public health issue of gun violence?
4. How would a logic model be developed for the Stop The Bleed program expansion?
5. How would you evaluate the success or failure of this program expansion?

6. What are some facilitators and barriers to implementing the Stop The Bleed expansion program?

KEYWORDS

Gun violence; injury prevention; logic model; program evaluation; program planning; social determinants of health; trauma-informed approach; violence-prevention initiatives; stigmatization; youth; Stop The Bleed