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Introduction

Thank you for asking me to be a member of the panel discussing firearms violence and rural populations.

Rather than consider myself an expert in this field, which I am not, following thirty -five years in rural practice, as both a family physician, an emergency physician and a coroner I feel I can bear some degree of witness to the issue of firearms accessibility and rural death.

Prior to beginning in rural practice, I lived in Montreal, Ottawa and Vancouver and served three years of active service in the Canadian military. During that time, I rarely encountered a firearm injury or death.

Being a rural emergency physician, however, and as a coroner, I have seen more than my share of firearm injuries and death by long gun suicide.

Of the three murders in Perth, during this time frame, I have been involved in two of them, including the difficult experience of investigating a double murder/suicide by long gun as a consequence of intimate partner violence. That is a memory that has stayed with me for over twenty years and constantly reminds me of the need to prevent firearms from falling into the wrong hands.

As a member of the Canadian Association of Emergency Physicians (CAEP), and co-chair of its Public Affairs Committee, this will be my fourth appearance before a Parliamentary committee examining the issue of firearms death and injury.

In 1995, I appeared before the House of Commons Standing Committee on Justice and Legal Affairs addressing the issue of Bill c-68, in 2010 before the Standing Committee on Public Safety and National Security addressing Bill c-391 and the repeal of the gun registry and in May of this year to the same committee on Bill c-71.

As a rural physician and more specifically as a coroner, I have marveled at the disconnect between public discourse on gun control, with its seeming single-minded focus on illegal handguns, gun-related crime, gang violence and homicide, and my reality on the ground of suicide by legally -owned shotguns and rifles.

Such a focus on crime has, in my view, prevented us from a real opportunity to reduce firearm death and disability that is associated with suicide prevention with the use of long guns. Eighty percent (80%) of firearm fatalities in Canada are from suicide.

In rural Lanark County, just south of Ottawa, where I live and practice, gun crime is practically unheard of; suicide by long gun, however, is a regrettably not infrequent occurrence.

This is where this government, and those that follow it, must focus their efforts.

Reducing accessibility to firearms, particularly to those at risk of self-harm or intimate partner violence, is where we need to focus our attention.

It will obviously not solve the problem, which is complex and multifactorial, but it will be a small but important step in the right direction of reducing the tragic legacy of death by suicide.

Firearms in Canada

26% of Canadian households own some sort of firearm. It is estimated that 3 million Canadians in Canada own firearms. Almost 7 million firearms are registered in Canada.

As of March 2007, more than 1.9 million Canadians held firearm licenses and 1.6 million owned at least 1 registered firearm. Of firearm owners, 76% own a rifle, 67% own a shotgun and 12% own a handgun

Rural areas have higher rates of gun ownership. In Canada, legal ownership rates are the highest in the Yukon and the Northwest Territories (32% of adults own 1 or more firearms) (67% of households) and lowest in Ontario (9%) (15% of households).

More people in rural areas own firearms than in urban locations.

37.3% of respondents from small towns own a firearm compared to 2.8% in communities with populations over one million.

Residents of small are also more likely to own long guns than people living in large cities: 33.6% compared to 1.2%.

The majority of owners (74%) use their firearms for hunting, target or sport shooting (18%) and collecting (17%).

Firearm access is a major risk factor for death from suicide, partner violence, and homicide across the life cycle, and access to unsecured firearms increases youth risk of unintentional death.

Firearm Injury

Suicides

Firearms are an important cause of injury and death. In 2004, 743 Canadians were killed by the use of firearms (2.4 per 100 000 people) and, despite general media focus on urban crime, 80% of these firearm-related deaths were caused by suicide

Suicide is the second most common cause of death in Canada for those aged 10–34 years and the ninth leading cause of death overall.

Firearm deaths accounted for 28% of suicides (26.2% men, 6.6% women) and at least 80% of all firearm deaths are secondary to suicide.

American data shows that firearm suicide rates are highest in the intermountain and rural states, for both adults and for youth with a strong and consistent correlation between home firearm access and risk of death by suicide. Among youth who die by firearm suicide, 82% used a family member's gun.

The percentage of suicides involving a firearm varies considerably across regions and is associated with, among other things, the availability of firearms.

Rates of suicide among young Canadian men are even more pronounced in rural area s – wherein as community size decreases, male suicide rates increase.

Living in rural communities may create geographical, psychological and sociocultural barriers to treatment for people at risk of suicide.

The majority of suicides are not premeditated but are impulsive in nature.

Suicide attempts using a firearm are particularly lethal (96% completion), compared with overdose attempts, in which only 6.5% are lethal.

For instance, a suicide attempt with a firearm has a case fatality rate of 90%, compared to 10% for all other methods combined.

Guns in the Home

US data: Living in a home where there are guns increases the risk of homicide by 40 to 170% and the risk of suicide by 90 to 460%. Young people who commit suicide with a gun usually use a weapon kept at home, and among women in shelters for victims of domestic violence, two thirds of those who come from homes with guns have had those guns used against them.

Kellerman and colleagues showed that keeping a gun in the home increases the risk of suicide by firearm, with an odds ratio of 4.8 (95% confidence interval [CI] 2.7–8.5).

More recently, Miller and coworkers compared changes in suicide rates with firearm ownership over a 22-year period and revealed that for every 10% decline in gun ownership, firearm suicide rates dropped by 4.2% (95% CI 2.3%–6.1%) and overall suicide rates decreased by 2.5% (95% CI 1.4%–3.6%).

This effect increased for children (aged 0–19 years), with a reduction in the rate of firearm-related suicide of 8.3% (95% CI 6.1%–10.5%) and an overall suicide rate reduction of 4.1% (95% CI 2.3%–5.9%).

In a study of self-inflicted firearm-related injuries or deaths among children (aged < 19 years), 65% were caused by use of a firearm owned by a household member.

The purchase of a handgun is associated with a substantial increase in the risk of suicide by firearm and by any method. The increase in the risk of suicide by firearm is apparent within a week after the purchase of a handgun and persists for at least six years. (N Engl J Med 1999;341:1583-9.)

Suicide rates are higher in Aboriginal rural communities, where the use of firearms is overrepresented.

Suicide and self-inflicted injuries are the leading cause of death for First Nations youth and adults up to 44 years of age.

Suicide affects the youth in Indigenous communities more than any other demographic. Suicide occurs roughly 5 to 6 times more often among Indigenous youth than non-Indigenous youth in Canada.

The suicide rate for First Nations youth (age 15-24) is 126 per 100,000 compared to 24 per 100,000 for non-Indigenous youth.

Suicides rates for Inuit youth are among the highest in the world at 11 times the national average.

Overall, firearm-related suicides have decreased by 43% since the introduction of stricter gun laws in 1991 and by 23% since the introduction of the Firearms Act17 in 1995.

Overall, firearm-related suicides have decreased by 43% since the introduction of stricter gun laws in 1991 and by 23% since the introduction of the Firearms Act17 in 1995. This decline was confirmed in a 4-study review that examined changes in Canadian suicide rates following the introduction of stronger gun laws in 1991.

Reducing access to firearms for those patients at high risk for suicide can save lives because: many suicide attempts are impulsive, with only minutes between decision and action; attempts often occur within a short-lived crisis; and the lethality of the method affects chance of survival, with up to 90% of firearm attempts resulting in death.

Killias: 1993, CMAJ; there does not appear to be a "compensation" process - that is, residents of the countries with low rates of gun ownership did not use means other than a gun more frequently to commit homicide and suicide to make up for the absence of guns.

Of note, of those who survive a suicide attempt, less than 10% go on to eventually die from suicide. Therefore, reducing access to lethal means may reduce risk of suicide death.

Substitution with methods as lethal as guns are is FAR FROM COMPLETE. Otherwise, the overall suicide rate would be no different in high vs low gun states, or in homes with vs without guns.

Intimate partner violence:

The risk of death to a victim of intimate partner violence is significantly higher when there is access to a firearm.

Women who are killed are most likely to die at the hands of an intimate partner ("domestic violence") and are most likely to be killed by a gun.

More than half of female homicides are perpetrated by partners, and more than half of these involve a firearm.

A firearm in the home increases a woman's risk of death five-fold, and is such an important risk factor that a partner's access to a firearm is a question in the well-validated "Danger Assessment" for risk of death from partner violence.

The perpetrators of non-fatal firearm injuries of women are also most likely to be romantic partners.
In the ED, any patient with a history of partner violence should be screened for firearm access, both on the part of the partner and the patient.

Significant variations exist between intimate partner firearm homicides and other firearm homicides, both in the types of firearms used and the risk factors.

In 2006, 21% of homicides were intimate partner homicides (0.28 per 100 000).

Firearm use in spousal homicide has decreased by 36% since the 1995 implementation of stricter gun control laws.

The spousal homicide rate against women is 5 times higher than that against men.

Between 1995 and 2004, spouses using firearms were responsible for 31% of intimate partner homicides against women.

Rifles and shotguns were used in 62%, handguns in 28% and sawed-off rifles or shotguns in 10% of these spousal homicides.

Keeping a gun in the home is a risk factor for spousal homicide.

Firearms are not only used for homicide in intimate partner violence. Gun owners enrolled in a Massachusetts batterers' intervention program described intimidating their partners by threatening to shoot them, a pet or someone they loved; cleaning, holding or loading the gun during an argument; or firing the gun during an argument.

US laws prohibiting gun ownership for those placed under a domestic violence restraining order were accompanied by a 7% reduction in intimate partner homicide.

In Canada, gun license applications require mandatory notification of current and former spouses. Additionally, spouses can call a 24-hour hotline if they have safety concerns. Over 26 000 calls have been made to the firearms hotline since its introduction in 1998.

When responding to a domestic violence call, law enforcement officers are required to remove known firearms and inquire about unregistered firearms.

With the registry, before responding to a call, officers could query the firearm registry to determine if firearms are on the premises. On average, officers queried the registry 5800 times per day.

Reducing Firearm Suicides

How might suicide among purchasers of handguns be prevented?

Focusing efforts on a population at high risk does not substantially reduce rates of suicide. As noted in one report, "there is no single, readily identifiable, high-risk population that constitutes a sizeable proportion of overall suicides and yet represents a small, easily targeted group."

In the Wintemute study, handgun purchasers accounted for only 10.3 percent of those who committed suicide by firearm statewide in the year after their handgun purchases and accounted for a smaller proportion thereafter. A screening test for handgun purchasers with a sensitivity and specificity of 99 percent for identifying the 188 persons who committed suicide by means of a firearm within a year would have had a positive predictive value of only 7.2 percent, generating 12.8 false positive results for every true positive.

Reducing access to firearms within an entire population can prevent suicides by firearm. Rates of suicide by firearm correlate very closely, both geographically and temporally, with measures of the availability of firearms.

In cross-sectional studies, stricter controls on access to firearms have been found to be associated with lower rates of suicide by firearm. In New York City, where handgun ownership has been strictly regulated since the early 20th century, rates of suicide by firearm are very low; rates of suicide by other methods vary directly with the availability of those methods.[4]

More direct evidence comes from time-series studies. A near-ban on the sale and possession of handguns in Washington, D.C., was associated with a rapid and specific 25 percent decrease in the rate of suicide by firearm.[4] Substantial decreases in suicides by firearm were reported in Queensland and Tasmania, Australia, and in Ontario, Canada, after waiting periods of 21 to 28 days and other restrictions on access to firearms were adopted, although

in Queensland there was an increase in suicide by other methods. Tasmania's 21-day waiting period resulted in a 51 percent decrease in the proportion of suicides involving firearms that were committed with recently acquired firearms.

The Role of the Emergency Department

Emergency departments are an important but underutilized setting for preventing injury and death, including those from firearms.

EDs provide access to traditionally hard-to-reach populations, including uninsured patients, those without a primary care physician, and youth not regularly attending school.

The ED is already encouraged to screen for suicidality and for partner violence in all high-risk patients.[01]
Risk factors for all types of firearm injury — suicidality, intimate partner violence, and assault victimization — are more common among ED patients than in the general Canadian population.

Up to 6-10% of ED patients have had recent suicidal thoughts, and many people who die by suicide are seen by a healthcare provider within one year of their death (more than one-third are seen within one week of death).

Among all ED patients, 20-40% report having been a victim of intimate partner violence and almost 40% of women who are seen in the ED for an assault were injured by their partner.

Approximately 30-50% of a random sample of ED patients report past-year physical assaults by a peer.

However, most EPs do not ask about firearm ownership, even among the highest risk patients.

For example, according to two studies, firearm ownership or access is documented in 0-3% of pediatric ED psychiatric evaluations.

In another recent study, 45% of adult suicidal patients who were discharged home had no medical record documentation of questioning about access to firearms or other lethal means; yet 13% of these patients reported to study staff that they had firearm access at home.

There are many reasons why EPs may not ask high-risk patients about firearms, including lack of time, concerns about patients' willingness to answer, and lack of physician comfort with the topic.

EPs may believe that asking about firearm access should or will be done by a psychiatrist or other mental health professional, but psychiatrists and psychologists appear equally unlikely to ask patients about firearm access.

Some physicians fear that patients will be upset by being asked about firearms, but there is little evidence that patients are offended by respectful questioning about firearms and other personal issues.

Interestingly, physicians who own firearms may be particularly likely to screen and counsel on firearm safety. These physicians also may be more likely to be perceived by patients as trustworthy or as experts in firearm discussions.

Unlike with discussions of motorcycle helmet use or child safety locks, physicians fear having a similar discussion about firearms.

As with other sensitive topics, these questions and discussions are ideally conducted in patient rooms or other private spaces.

Regardless of how suicide risk is identified, all patients at risk of intentional self-harm should be asked about access to firearms and other lethal means.[72,136] This question can be integrated into questioning about a suicidal individual's thoughts, intent, and plan. For example, an EP might ask a patient: "What kind of suicidal thoughts

have you been having? Do you have any intention of acting on those thoughts? Do you have a plan for how you would kill yourself? Do you have access to firearms?" If the patient discloses a particular non-firearm plan, the EP should also ask about access to that method; for example, if a patient is planning on overdosing on a medication, the EP should ask about access to that medication. However, all suicidal patients should be screened for firearm access, regardless of their plan, because of the impulsivity of suicide attempts and the high lethality of firearm attempts.[66]
For patients at acute risk of suicide, the goal of screening for firearm access and subsequent "lethal means counseling" is to ensure the at-risk individual does not have access to firearms (or other lethal means of suicide) until the risk of self-harm has abated.

Patients identified as victims or perpetrators of IPV should always be asked about the presence of firearms in the home and about any recent threats or escalation of violence. In these situations, the preamble to the question about firearm access may include a statement such as, "My primary concern is about the safety of you [and your children]. Because of that, I want to ask a few more questions." The question to ask can be taken directly from Danger Assessment, a standard tool for assessing risk of death from partner violence: "Does your partner own a gun?"

The other key component in the physician-patient interface that may help to reduce firearm injury and death is the medical reporting of individuals at risk.

In all jurisdictions in Canada there is **mandatory** medical reporting of those individuals who may be at risk of driving a car, flying a plane, in those suspected of child abuse and with certain infectious disease.

In Ontario, and at least five other provinces there is mandatory reporting to the police from the emergency department of those individuals who have sustained a firearm injury.

These are not discretionary reports.

There can be little argument that the individual with severe depression, with suicidal ideation, with psychosis and paranoid ideation, untreated alcoholism and substance abuse and those involved in the perpetration of intimate partner violence should be considered at potential risk of firearm violence.

I believe, and CAEP has consistently believed, that these individuals should have their access to firearms temporarily restricted until their mental health issues have been successfully addressed and treated.

Conclusion

Firearm injury and death is far more than just gang crime in urban areas with illegally obtained firearms.

The great majority of firearm deaths in Canada are secondary to suicide.

Rural citizens and First Nations peoples are significantly and disproportionately at risk; this is contradistinction to previous governments attempts to characterize all previous efforts at gun control as punishing legal gun owners"

The CAEP believes:

1. There needs to be enhanced screening provisions and the expansion of the timeline for seeking clinical red flags. We agree entirely that there must be rigorous screening and restriction of licensing for those individuals deemed at risk

2. We would suggest that there be mandatory reporting by physicians of those individuals at risk by virtue of severe mental illness. This would allow for identification of individuals at temporary risk and limit access to firearms until the mental health or social crisis has been deemed to have been resolved.

3. We would like to see safe storage provisions become more meaningful through assessment and documentation that they actually exist and perhaps greater emphasis on gun locks.

4. We would continue to suggest that there be greater research into firearm related injury and death so that scientific data, rather than opinion, guide future efforts at asking Canadians safer.
5. We would like to see greater educational efforts for the public and the medical profession on the roles of firearms in completed suicides and intimate partner violence,