# Commentary: Homicide-Suicide in Older Adults—Cultural and Contextual Perspectives

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The authors comment on "Domestic Homicide and Homicide-Suicide: The Older Offender" by Bourget *et al.*, who learned that after a domestic homicide in Canada, the older offender frequently commits suicide. The authors comment on the ubiquity of single homicide-suicide across cultures, the incidence of single homicide-suicide in various cultures, the common patterns and differences in single homicide-suicides across cultures, ethnic and gender differences in single homicide-suicide within different cultures, characteristics of the phenomenon of mass murder followed by suicide and ethnic differences within this type of homicide-suicide, and differences in suicidal patterns in different cultures. Suicide and suicide preceded by homicide (single or multiple) are so rare, it is currently impossible to draw any substantive conclusions about the incidence of these phenomena in various contexts; however, ideas for consideration in addressing homicide-suicide are provided.

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Bourget and coauthors[1] report that after a domestic homicide, the older offender frequently commits suicide. Accordingly, their article focused on the phenomenon of homicide-suicide. Given the evolutionary propensity for the preservation and maintenance of life, the phenomenon of suicide is perplexing. Although it is rare, suicide occurs regardless of location, culture, gender, or age, and rates of suicide vary depending on these factors. The motivation for suicide is determined by a set of complex dynamics, and homicide-suicide is even more bewildering. Furthermore, homicide-suicide can involve only one homicide victim or more than three victims, which classifies the event as a mass murder-suicide. Bourget *et al.*[1] endeavored to study one aspect of the puzzling occurrence of single homicide-suicide, providing a cross-cultural picture of older spousal homicide-suicide offenders in Canada. Contributing to the complexity of this phenomenon, these authors, among others, demonstrate various aspects that confound the reason for and study and understanding of homicide-suicide, including its antecedents and potential preclusive mechanisms.

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## Cultural, Racial, Ethnic, and Gender Patterns in Homicide-Suicide

In their article Bourget and colleagues[1] have contributed to a culturally nuanced discussion and added to our understanding of the complexity of homicide-suicide dynamics. Their article highlights the characteristics of older spousal homicide-suicide, which have similarities and differences in the various contexts and cultures. Although the incidence of homicide-suicide is rare, it occurs across the globe in countries including, but not limited to Canada,[1] the United States,[2] Scandinavia,[3] South Africa,[4,5] Greenland,[6] China,[7] England,[8] Germany,[9] Finland,[10] and France.[11]

### *Rates of Homicide-Suicide in Different Countries*

In a review of the literature from 10 nations, Coid[12] found the incidence of murder-suicide to be 0.2 to 0.3 per 100,000. Similarly, Marzuk *et al.*[13] estimated the homicide-suicide rates in the United States to be 0.2 to 0.3 per 100,000 per year. In a comprehensive review of the current literature, Eliason[14] examined the data on murder-suicide of Mar-

zuk and colleagues,[13] and found an incidence of murder-suicide under 0.001 percent. Specific to country, Jena *et al.*[4] found an annual rate of homicide-suicide of 1.0 per 100,000 in Pretoria, South Africa, between 1997 and 2001, while Roberts *et al.*[5] reported an annual homicide-suicide rate of 0.89 per 100,000 in Durban, South Africa, between 2000 and 2001. Hansen[6] reported a rate of homicide-suicide of 1.33 per 100,000 in Greenland in the mid 1970s at a time when the total homicide rate was 15.6 per 100,000, and the suicide rate was an extraordinary 45 per 100,000 per year. Large *et al.*[2] reported a rate of 0.313 per 100,000 within the United States. While these rates show that this incident happens around the world, they also demonstrate the rarity of homicide-suicide and the complications involved in prevention. Thus, more research should be conducted to gain a better understanding of the phenomenon.

### *Similar Characteristics of Homicide-Suicide*

Thorough investigation shows commonalities in the details of the spousal/couple homicide-suicide. These similarities (or risk factors) usually include the relationship between homicide victims and homicide-suicide perpetrators (usually intimate), the sex of the homicide victim (usually female), the sex of the homicide-suicide perpetrator (usually male), the age of the victim (usually younger than the perpetrator), the use of a weapon (usually a gun), and a history of mental illness in the homicide-suicide perpetrator (most often a male who is depressed). The resemblances are universal and cut across national lines. In Scandinavia,[3] South Africa,[4,5] China,[7] and the United States,[15] for example, most homicide-suicide perpetrators are male, with most of their victims being female intimate partners who are killed violently by them with weapons.

### *Dissimilar Characteristics of Homicide-Suicide*

While these commonalities can be helpful in identifying risk factors, further study of the broader phenomenon of homicide-suicide renders more variation and difference within and between cultures and age groups, complicating attempts at accurate targeted prevention. The sample in the study by Bourget *et al.*[1] consisted of 93 percent male perpetrators, with all perpetrators older than 65 years. In this group, there were many Caucasians, a low prevalence of domestic violence history, and a high incidence of physical illness in the victims.[1] Other counties, cultures, and age groups display different trends. In the United States, there was a history of domestic violence in most homicide-suicides involving intimate couples; however, most were not elderly couples.[14] In China,[7] most of the incidents were related to spousal conflict or were completed for altruistic reasons. The main methods of killing were slashing with a weapon and carbon monoxide poisoning by charcoal burning in a closed space. Homicide-suicide trends in the three counties identified earlier (Canada, the United States, and China) show that there are variations in both country and age, which also demonstrates the dynamic complexity of this phenomenon.

### *Cultural, Racial, and Ethnic Differences in Homicide-Suicide*

Furthering these complications are ethnic differences related to homicide-suicide in South Africa and in the United States. Regarding patterns of homicide-suicide relationships, Jena *et al.*[4] found two profiles of typical perpetrators in Pretoria: a younger, single, black male shooting his girlfriend and himself at home and an older, married, Caucasian male shooting his wife and himself at home. In Durban, Roberts *et al.*[5] reported that 91 percent of the perpetrators and 87 percent of the victims were black, which proportionately represents the population.

#### *Suicide Preceded by Mass Murder*

Because homicide-suicide is an act of violence committed against another and then against oneself, the topic of mass murder-suicide is included, with interesting dynamics related to race and ethnicity. Studying all forms of this trend (violence against others and self), as well as aspects of it (e.g., suicide alone or homicide alone) may help to illuminate underlying factors that contribute to mass murder-suicide.

Mass murder alone is usually defined as the killing of four or more people during one violent act or over a short time.[16] Petee *et al.*[17] provided a review of mass murder, including spousal homicide-suicide, in public places. From their study, it became clear that most offenders in anger/revenge- and domestic/romantic-related mass murder are European Americans (Table 1).

In both motives for mass murder, there is a significant suicide dynamic. Thus, the authors suspect that these mass murders are actually suicides preceded by mass murder. Further, as these types of homicide-

**Table 1** Mass Murder Motives and Dynamics

| Mass Murder Motive | Mass Murder Dynamics | European American, % | Committed Suicide, % |
|---|---|---|---|
| Anger/Revenge | Specific persons targeted | 66.5 | 66.7 |
| | Specific place targeted | 76.5 | 38.9 |
| | Diffuse target | 80.0 | 30.0 |
| Domestic/romantic | | 57.1 | 28.6 |
| Direct interpersonal conflict | | 60.0 | 0.0 |

Adapted from Petee *et al.*[17]

suicide often involve tumultuous relationships, they seem quite different from the motives that Bourget *et al.*[1] describe.

### *Gender Differences in Homicide-Suicide*

Differences based on the sex of the perpetrator have also been studied in the United States. Infant homicide followed by a suicide (filicide-suicide, which is largely preventable by pre-empting postpartum depression[18]) is one of two major homicide-suicide patterns (the second being intimate partner homicide-suicide[19]). Logan *et al.*[20] found that more than half of filicide-suicides (51.5%) in their sample were committed by females.

## Suicide Dynamics Within Patterns of Homicide-Suicide

Narrowing the focus, suicide alone also varies by culture, race, and ethnicity, even within country, with some nations and cultural, racial, and ethnic groups within nations having higher suicide rates than others. The seminal report of the Institute of Medicine (IOM), "Reducing Suicide,"[21] substantiates that in the United States there are also cultural, racial, and ethnic dynamics related to the overall pattern of suicide, with European Americans being more predisposed to completion of suicide and African Americans being less predisposed. Thus, suicide is a major form of violence within the European-American community, whereas homicide is a major form of violence within the African-American community.[22,23]

Suicide trends in some nations can also indicate focal points in other countries. For example, the suicide rate in China was 17 per 100,000[24]; however, the rates are higher in rural than in urban areas.[25] This regional pattern persists in various countries such as the United States,[21] China,[26] countries that were in the former Soviet Union,[27] Australia,[28] Greece,[29] and the Ukraine.[30] The suicide rates in the United States not only vary in area classification, but also region, with Western states having the highest rates, crossing 21 per 100,000, compared with New Jersey, for example, with a rate of 6.4 per 100,000 in 1998.[31] Saunderson and Langford[32] believe population density has a positive relationship with rate of suicide, as there are fewer incidents in heavily populated areas in England and Wales. This pattern also holds true for the United States and, in part, seems due to the decrease in firearm suicides with urbanization,[21] a finding supported by Brickmayer and Hemenway.[33] Within the United States, ethnic differences are also notable. The average rate of suicide is 11 per 100,000; the lowest rate is among African-American women: 2 per 100,000.[21] The 2002 IOM report found that United States' rates of suicide are exceptionally high among certain population groups (e.g., white males over 75 years of age and Native Americans) and in certain professions (e.g. health care and law enforcement).[21] In the United States, European-American males older than 85 have the highest rate of suicide: 65 per 100,000.[21] Suicide among Native Americans is approximately 1.5 times more prevalent than in the nation as a whole.[21]

### *Motivational Differences Between Canada and the United States*

In almost every country and culture, males perpetrate homicide-suicide. The acts are most often committed by men, the means are usually violent (involving weapons), and the victims are most frequently women. In a review, Scott[34] lists 13 suggested motivations for homicide-suicide, the first five of which are impending divorce, previous divorce, departure or perceived loss of a nonmarital partner, jealousy, and retaliation. This finding suggests pervasive and pernicious patriarchy, sometimes called male entitlement dysfunction,[35] which should be urgently addressed. Considering that domestic violence is a major motive for homicide-suicide in the United States,[14] it is surprising that a history of domestic violence among the older couples was not found to

be more prevalent by Bourget *et al.*[1] This discrepancy could be attributable to the differences in national culture. The pattern of homicides in the United States is much different from that in Canada, with rates in the United States being about three times higher.[36]

### *Complications in Studying Homicide-Suicide*

Ostensibly, there is a broad range of research that has been conducted in this area; however, this endeavor is fraught with complications and potential inaccuracies. Bourget *et al.*[1] identified two limitations of their study: missing data and a small sample size. There are further limitations to the study of this phenomenon. The Institute of Medicine Suicide Prevention report[21] noted that coroners' data in the United States are unreliable because of regional differences in requirements for the position of coroner, the definition and classification of suicide, training and background, investigation of cases, and the quality of data management. IOM gave various examples and stated:

> In the United States, the qualifications range from simply having an interest in the job (e.g., Indiana) to specialized training in forensic pathology (e.g., Oklahoma). Medicolegal officials may be elected, appointed or serve ex-officio (e.g., elected county sheriffs). Investigations may be centralized within a state (e.g., Rhode Island) or organized by each county (e.g., Utah). Each of these factors affects the nature, extent, and quality of the investigation and the classification of deaths as suicide [Ref. 21, pp 380–1].

These nuances can lead to inadvertently erroneous statements and confusion among researchers.

Religion and stigma leading to reporting bias can confound the study of both suicide alone and homicide-suicide. For instance, predominantly Catholic countries, in which the religion-related stigma on suicide is severe, are less likely to make explicit attribution in the public record of deaths due to suicide.[37,38] The reported suicide rates in countries that are predominantly Muslim may also be influenced by this bias.[39] It has been postulated that most, if not all, of the cases of death of undetermined cause are actually suicides.[21]

The rarity of suicide, as recognized by Bourget *et al.*,[1] further complicates precise inquiry. The IOM committee also noted that suicide is a rare event. Despite these higher rates, the reality is that suicide and homicide have low base rates: 0.00011 and 0.000062, respectively. Thus, if they are to yield significant results, studies must include large population samples. IOM asserted this necessity:

> Large sample sizes are required to provide statistical power for studies of events with a low base rate. For example, to determine the overall incidence rate of suicide in a general population within plus or minus five per 100,000 with 90 percent confidence, would require about 100,000 participants. Many statistical approaches exist that can be effectively applied to the field of suicide [Ref. 21, p 411].

As the homicide-suicide rates are even lower than individual suicide rates, we believe that attempting to base prevention efforts on the findings of these limited samples is problematic and typical of the current state of suicide prevention in Western countries.

### *Prevention of Suicide in the Elderly*

In 1990, the United States had a suicide rate of 24.9 per 100,000 among men aged 75 to 84. In 1998, the rate had risen to 42.0 per 100,000. Although older individuals comprise approximately 10 percent of the U.S. population, they account for 20 percent of completed suicides.[40,41] Because the rates of suicide and homicide in the elderly are so low, it is difficult to develop a profile of the perpetrators. Given the apparent protective factors that are in operation, profiling with the current limited information would be likely to yield frequent false positives.[21] However, Bourget *et al.*[1] provide information to build a foundation for effective prevention. These Canadian authors suggest that terminal illness in a spouse (the usual victim) and depression in the other spouse (the usual perpetrator) may be risk factors for homicide-suicide in an older couple, proposing that it would be prudent to screen for such disorders to prevent suicide and homicide-suicide. IOM stated:

> Untreated or undertreated pain, anticipatory anxiety regarding the progression of medical illness, fear of dependence, and fear of burdening the family are the major contributing factors in the suicidality of elderly with medical illness [Ref. 21, p 44].

Primary care physicians saw 70 percent or more of elderly suicide victims within 1 month of their deaths.[42–44] It makes sense that if in Canada the victims of homicide were gravely ill,[1] individuals at risk could be identified in primary care offices. Accordingly, the problem of prevention of older-partner domestic homicide-suicide[1] could be approached in the same way as prevention of elderly suicide. Foley[45] and Hendin[46] found that elderly and cancer patients who once wanted to die found a stronger will to live when their pain or depression was adequately treated and managed. Specifically, the Prevention of Suicide in Primary Care Elderly (PROSPECT):

Collaborative Trial[47] proposed a way of identifying at-risk perpetrators of suicide and providing them with protective factors that keep their risk factors from becoming predictive of bad outcomes. PROSPECT[48] found that patients in the intervention group had seven percent lower suicidal ideation than did those in conventional treatment. Further, 12 percent fewer patients expressed feelings of hopelessness than those in conventional treatment. Bruce *et al.*[47] found that patients in PROSPECT experienced a faster rate of decline of suicidal ideation than did those in regular treatment. Alexopoulos *et al.*[49] similarly found that those in PROSPECT were more likely to receive psychotherapy or antidepressants and to have a remission of depression than were those in the treatment-as-usual group. The effectiveness of this approach suggests that the same strategy could be used to prevent homicide-suicide in elderly couples.

Furthermore, although some homicide-suicide patterns hold across cultures, there are culturally specific patterns as well (e.g., China's homicide-suicide pattern of chopping or charcoal burning). Prevention research and intervention development must further ascertain and study these differences. As in most cases in mental and physical health prevention and intervention,[18] treatment of homicide-suicide must seek to be culturally responsive to be effective. The clinician who disregards the patient's cultural origin may lose the patient. If prevention and intervention strategies are not sensitive to the understanding and worldview of patients, then these strategies may not be as effective or may even fail completely.

## Recommendations

For prevention and intervention strategies to be optimally successful, health professionals must fully comprehend the problem. Research is a major step in increasing our understanding. The milestone Institute of Medicine's suicide prevention report[21] suggests several remedies for the problem of suicide, which are quite relevant to the single domestic homicide-suicides involving older offenders described by Bourget *et al.*[1] The IOM report[21] recommends the establishment and coordination of population research centers, to enable investigations to reach the critical sample level necessary to bring statistical relevance to the study of the prevention of suicide (and we include the prevention of homicide-suicide). Considering the cultural, racial, and ethnic variations in suicide, these population research centers would have to study culturally, racially, and ethnically diverse populations. In addition, they should study continuity of care, treatment adherence, and access to services; the effects of reducing the sense of hopelessness in persons who are suicidal; the effectiveness of pharmacotherapies and psychotherapies; neurological factors; genetics; the effects of hospitalization; high-risk populations; short-term versus long-term treatment; and biopsychosocial factors. Unfortunately, this recommendation was never adopted within the United States, and the literature continues to publish useful but limited studies on the various aspects of suicide.

The next step in progress and prevention is to integrate research into practice, to apply the findings effectively. The status quo is that prevention science takes an average of 14 years to be efficaciously integrated into practice.[18] The cooperation of researchers and practitioners is necessary to shorten this duration and to address homicide-suicide more quickly and comprehensively.

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