

2021 Individual Life Claims Suicide Study

Munich Re, Canada (Life)

CONTENTS

1. Introduction	3		
2. Risk Factors and Population at Risk	4		
2.1 Mental illness and substance abuse	4		
2.2 Family history/genetics	5		
2.3 Occupation	5		
2.4 Marital status	5		
2.5 Other risk factors	5		
2.6 Population at risk	5		
3. Comparing Suicide Trends Among the General and Insured Populations	6		
3.1 Suicide rates by country, population, and year	6		
3.2 Suicide rates by year and sex	8		
3.3 Suicide rates by age group	9		
3.4 Suicide rates by region	10		
4. Canadian Suicide Rate Variation in the Insured Portfolio	11		
4.1 Munich Re's 2008-2017 Experience Study	11		
4.2 Munich Re's claims dataset (January 2006 to May 2019)	13		
5. The Suicide Exclusion	14		
5.1 Revising the exclusion	14		
5.2 Do we need the suicide exclusion?	14		
5.3 Dollar value of the suicide exclusion	15		
5.4 Applying the suicide exclusion	15		
5.5 Validating the policy	16		
6. Claims Best Practices	17		
6.1 Analysis of claim proofs	17		
6.2 Physician statements	17		
6.3 Case studies	18		
7. Medical Assistance in Dying (MAiD)	19		
7.1 Claims adjudication	19		
7.2 Munich Re's MAiD experience	19		
8. Suicide and COVID-19	20		
9. What Can Insurers Do?	21		
10. Conclusion	22		
Appendix A – Standardization	24		
Appendix B – Underreporting of Suicides	25		
References	27		

1 Introduction

During the time you take to read this study, an estimated 25 people worldwide would have died by suicide. Approximately 2,200 people die by suicide every day, which translates to 800,000 annually¹. Of this figure approximately 4,000 are Canadians². As staggering as these numbers are, The Economist reported that suicides are underreported globally by a third due to the stigma associated with it and the burden of proof required for authorities to classify a death as a suicide. It also reported that the global suicide rate had gone down by 29% since 2000, but during this same period, the suicide rate in the United States (U.S.) general population had increased by 18%³. Suicide rates have also been rising for the Canadian general population. The lack of current and industry-wide data has made it challenging for Canadian life insurers to understand how changes in the suicide rate can impact the insured population.

In this paper, we will provide insight to life insurance professionals seeking to learn more about the risk profile of those that die by suicide by sharing how rates vary in the Canadian insurance population using Munich Re's comprehensive mortality dataset. We also look at how this risk profile may predict trends in suicide rates during the COVID-19 pandemic. Suicide rates are also compared with those in the US general and insured populations to give further context.

This paper will also deepen the understanding of suicide for claims professionals with statistics from Munich Re's claims dataset, including insights on the suicide exclusion and Medical Assistance in Dying (MAiD). Finally, we will share claims best practices with case studies to enhance the adjudication of suicide claims.



Colin Sproat, FCIA, FSA

Assistant Vice President,
Biometric Research
Munich Re North America Life
CSproat@munichre.ca



Michael Orr, FLMI, FLHC

Senior Account Manager, Claims,
Munich Re, Canada (Life)
MOrr@munichre.ca

2

Risk Factors and Population at Risk

Being aware of the risk factors for suicide can help life insurance professionals understand the risk profile of those that die by suicide and help claims professionals identify cases that may require additional investigation. What leads an individual to take their own life is complex and usually involves a mix of factors.

2.1 MENTAL ILLNESS AND SUBSTANCE ABUSE

Of the 4,000 Canadians who die every year by suicide, more than 90% had been living with a mental illness. However, not all people who die by suicide were diagnosed with a mental illness, and most people living with a mental illness do not attempt suicide⁴. Examples of mental illness include depression, bipolar disorder, anxiety, and schizophrenia. A 2018 study conducted by the Centre for Addiction and Mental Health (CAMH) showed that, despite representing only 1% of the population, nearly 12% of all suicide deaths in Ontario were among people with a schizophrenia spectrum disorder⁵.

Perspective on COVID-19

The mental health consequences from the COVID-19 pandemic are likely to be present for longer, and peak much later than the actual duration of the pandemic⁸. The lockdown may also increase other known causes of suicide such as domestic violence, alcohol consumption and loneliness (see Section 8).

Mental illness and substance abuse are well-connected. People with a mental illness are twice as likely to have a substance abuse problem than the general population⁶. At the same time, people who are addicted and/or abuse drugs or alcohol on a consistent basis are more likely to become depressed. Some people use such substances to escape feelings of hopelessness in their current life situation. When faced with the inability to overcome their addiction, some see suicide as their only option⁷.

Personality disorders are closely related to mental illness and can increase the risk of suicide. People with these disorders can have difficulty coping in society, maintaining relationships or keeping a steady job⁷.

2.2 FAMILY HISTORY/GENETICS

A family history of suicide increases the risk of attempted and completed suicides. In addition, an inherited mental illness can increase the risk of taking one's own life⁹. Studies have shown a genetic link to suicidal behavior. Dr. Gustavo Turecki of the McGill Group for Suicide Studies (MGSS) researched why some people who become depressed turn to suicide while others with the same illness do not¹⁰. His 2014 study looked at the role of epigenetic risk factors and how life experience affects gene function and increases the risk of suicidal behavior. His study showed that levels of a tiny molecule called miR-1202 may provide a marker for depression and can help detect people who are likely to respond to antidepressant treatment.

2.3 OCCUPATION

A June 2010 study in *The Canadian Journal of Psychiatry* concluded that with few exceptions the characteristics of specific occupations do not substantially influence the risk for suicide. However, the study found suicide risk to be inversely related to the occupational skill level, meaning that mortality rates are lower for more highly skilled occupations. For example, for both men and women, suicide rates were more than twice as high for those in unskilled occupations versus those at a managerial skill level¹¹.

Recently, there have been numerous media reports that link post-traumatic stress disorder to suicide risk among first responders, including police officers¹². Studies have shown that war veterans and members of the Canadian Armed Forces with a deployment history have a higher suicide rate than the general population^{13 14}.

Perspective on COVID-19

As widely reported in the media, the mental and physical effects of COVID-19 has led to increased deaths by suicide among frontline medical professionals (see *Section 8 for more details*).

2.4 MARITAL STATUS

Statistics Canada reported age-standardized suicide rates for four groups: single (never married), married, divorced, and widowed¹⁵. They found that for both sexes, single (never married) people were 3.3 times more likely to die by suicide than married people, followed by those that were widowed and divorced. Suicide rates among the divorced and widowed are particularly high for those aged 40 to 59¹⁵.

2.5 OTHER RISK FACTORS

The Government of Canada reported the following additional risk factors for suicide (see References for full report)¹⁶.

- Prior suicide attempts
- Hopelessness/helplessness
- Chronic (long-term) physical pain or illness
- Trauma (i.e. violence, bullying, childhood abuse)
- Significant loss including personal, social, cultural, financial
- Major life changes or stressors, such as:
 - Unemployment
 - Homelessness
 - The death of a loved one
 - Harassment
 - Discrimination
- Lack of access to or availability of mental health services
- Personal identity struggles (sexual, cultural, etc.)
- Lack of support from family, friends or community
- Sense of isolation

2.6 POPULATION AT RISK

The Government of Canada reported that the following groups have higher rates or risk of suicide¹⁷:

- Men and boys
- People serving federal prison sentences
- Survivors of suicide loss/suicide attempt
- Youth aged 15 to 24 (for which suicide is the second leading cause of death)
- Some First Nation/Metis communities, especially in their youth
- All Inuit regions in Canada

3

Comparing Suicide Trends Among the General and Insured Populations

In this section we reveal how Canadian and US suicide rates compare by age, sex, and year, and compare suicide rates among insured and general populations. Suicide rates are annual and are measured per 100,000 lives for the general population and per 100,000 insurance coverage counts for the insured population, unless otherwise stated. To make the comparison clearer, suicide rates are standardized by age and sex to a distribution representative of an insured population. Data in Figure 5 was not standardized and the data in Figure 7 was standardized differently due to limitations in data granularity. Further details about standardization are in Appendix A.

Suicide rate data in this section comes from two data sources:

1. **Insured population:** This is Munich Re's internal Canadian and US experience studies on reinsured lives which covers the calendar years 2008-2017.

Joint policies and term insurance that was in the renewal period were excluded. Suicides from this study are for paid death claims and are referred to as coming from the "insured population".

2. **General population:** Suicide deaths and population data were obtained from Statistics Canada and from the Centers for Disease Control and Prevention^{18 19 20 21}. Due to Statistics Canada data still being preliminary, suicide rates are not shown after 2015. Suicide was identified as "intentional self-harm (suicide) (*U03,X60-X84,Y87.0)" under ICD-10 (International Classification of Diseases version 10). Although all suicides are included from each data source, there is likely underreporting in both. More information about underreporting and the preliminary Statistics Canada data can be found in Appendix B.

3.1 SUICIDE RATES BY COUNTRY, POPULATION, AND YEAR

Standardized Suicide Rate per 100,000 by Year

Standardized Suicide Rate per 100,000

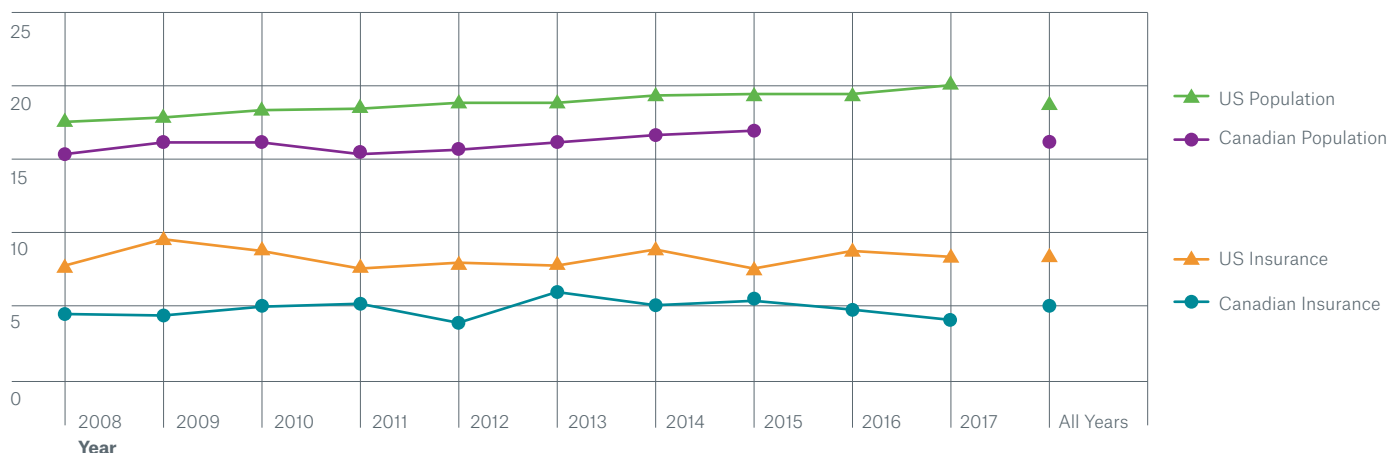


Figure 1. Trend comparison of the standardized suicide rate per 100,000 by year between Canada and the US, as well as between the general and insurance populations

In Figure 1, the Canadian general population suicide rates show an increase from 2011 to 2015, while the US general population demonstrated this increase as early as 2008. Despite these increasing trends in the general population data, suicide rates for the insured population fluctuated around their baseline level over 2008 to 2017 in both countries, indicating that insured lives have a different trend. Canadian suicide rates for insured lives and the general population are lower than their US comparisons. From 2008 to 2015, Canadian insured population suicide rates were 69% lower than the general population rates and 39% lower than the US insured population rates.

Perspective on COVID-19

We anticipate suicide rates to increase for the insured population due to the significant impacts of both the lockdown and the financial disruption caused by the COVID-19 pandemic (see Section 8).

Standardized Suicide Rate per 100,000 by Year

Standardized Suicide Rate per 100,000

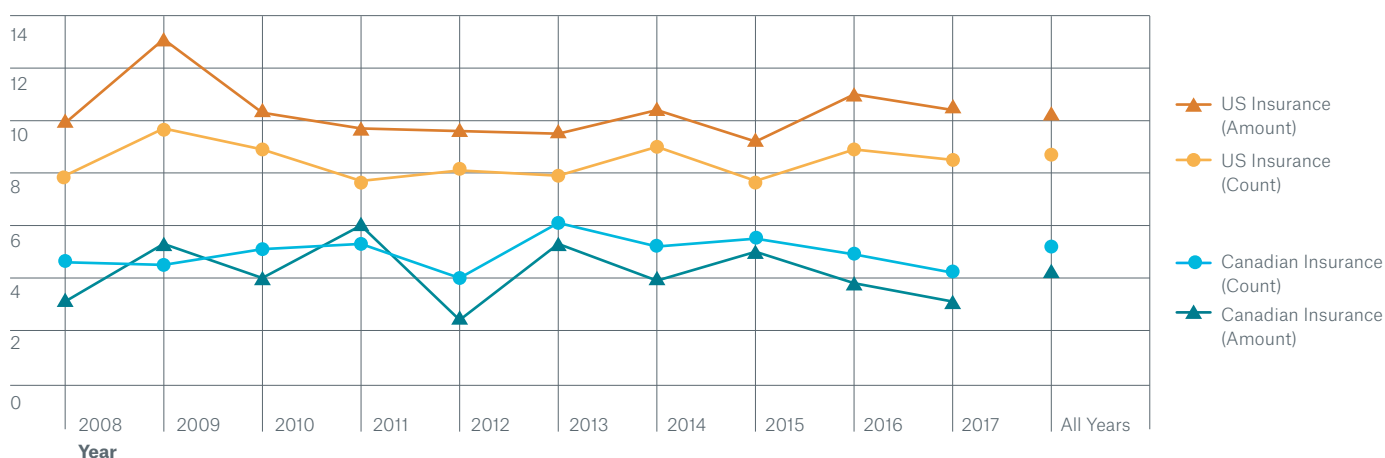


Figure 2. Standardized suicide rate per 100,000 per year by count and by amount (claim amount divided by the sum of face amount for all lives that year) within the insurance population in Canada and the US.

Figure 2 shows insurance population suicide rates measured by count and by face amount. The suicide rate by amount is determined by dividing the claim amount by the sum of face amount for all lives in that year. Higher suicide rates by amount than suicide rates by count indicate that suicide rates are higher for larger face amount policies.

US insured population suicide rates by amount significantly increased in 2009 while they were flatter by count, particularly for higher face amount policies.

This confirms anecdotal accounts that suicides in the US were higher during the financial crisis in 2009 for larger face amount policies. However, that association was less clear in the Canadian insured population.

There was no increase for the Canadian insured population in 2009 by suicide count, although there was an increase by amount. There was also a small increase in 2009 suicides in the Canadian general population in Figure 1, which may be associated with the financial crisis.

3.2 SUICIDE RATES BY YEAR AND SEX

Canadian Standardized Suicide Rates by Sex

Standardized Suicide Rate per 100,000

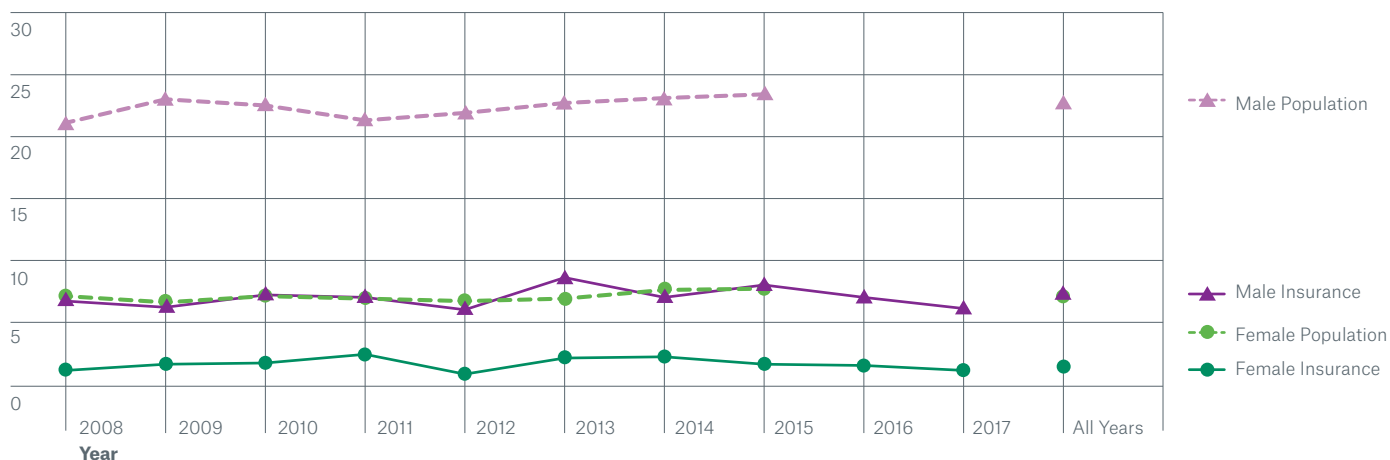


Figure 3.

US Standardized Suicide Rates by Sex

Standardized Suicide Rate per 100,000

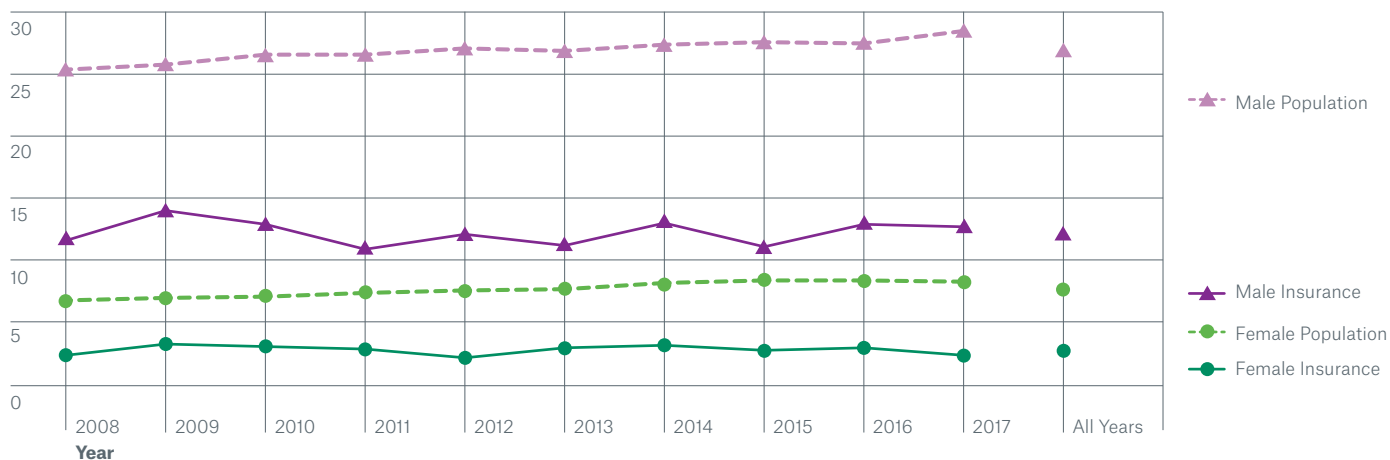


Figure 4.

Analyzing Figures 3 and 4, we see that suicide rates are increasing in the general population while they have a level trend in the insured population for both sexes and countries. We also see that male suicide rates are significantly higher than female rates. From 2008 to 2015, Canadian insured and general population male suicide rates were 3.8 times and 3.1 times higher than female rates, respectively.

3.3 SUICIDE RATES BY AGE GROUP

Canadian Suicides as Percentage of All Known Causes of Death 2008-2015 (Population), 2008-2017 (Insured)

Suicide as a % of all deaths

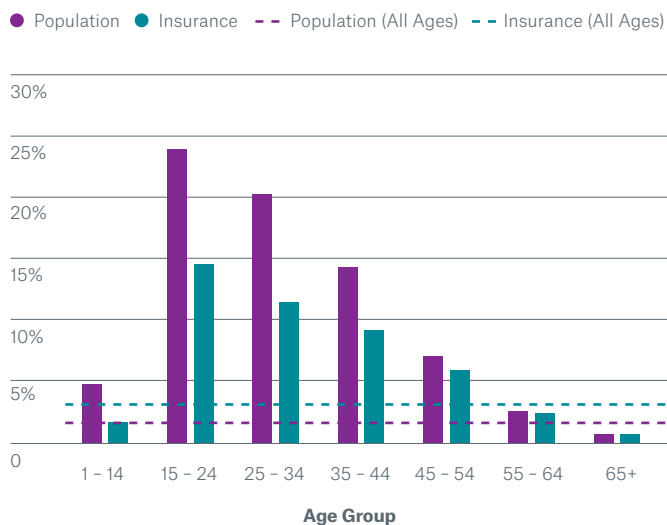


Figure 5. Percentage of deaths (where the cause is known) that are suicides in the insured and general populations for 2008-2015 and 2008-2017, respectively. Causes of death were not standardized.

Figure 5 shows that suicide as a percentage of all known causes of death varies significantly by age. For example, general population suicide would be ranked as the ninth leading cause of death overall and accounted for 1.6% of all known deaths over the period 2008-2015 while for ages 35-54, it would be the fourth leading cause of death and account for 10.4% of all known deaths.

When comparing insured claims with a known cause of death against the general population, we see that the insured portfolio has a higher percentage of suicides. This can be explained by the difference in age distributions. The insured population has a higher concentration of exposures in the portfolio and deaths for ages 25-74 and significantly fewer exposures and deaths ages 75 and above.

Suicide Rate by Age Group

2008-2015 (Population), 2008-2017 (Insured)

Standardized Suicide Rate per 100,000

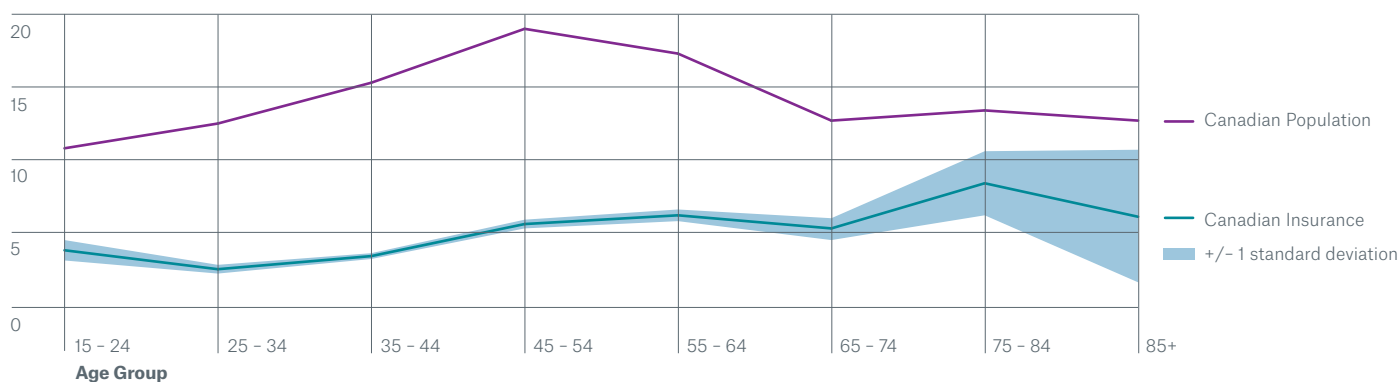


Figure 6.

Figure 6 demonstrates that suicide rates for the Canadian general population increase by age band up until the 45 to 54 age band. The insured population follows a similar pattern by age to the general population

from ages 25 to 54 and then diverges after that. Ages under 15 were excluded from Figure 6 due to low insurance population credibility.

3.4 SUICIDE RATES BY REGION

Suicide Rates by Region

2008-2015 (Population), 2008-2017 (Insured)

Standardized Suicide Rate per 100,000

● Canadian Population ● Canadian Insurance I +/- 1 Standard Deviation

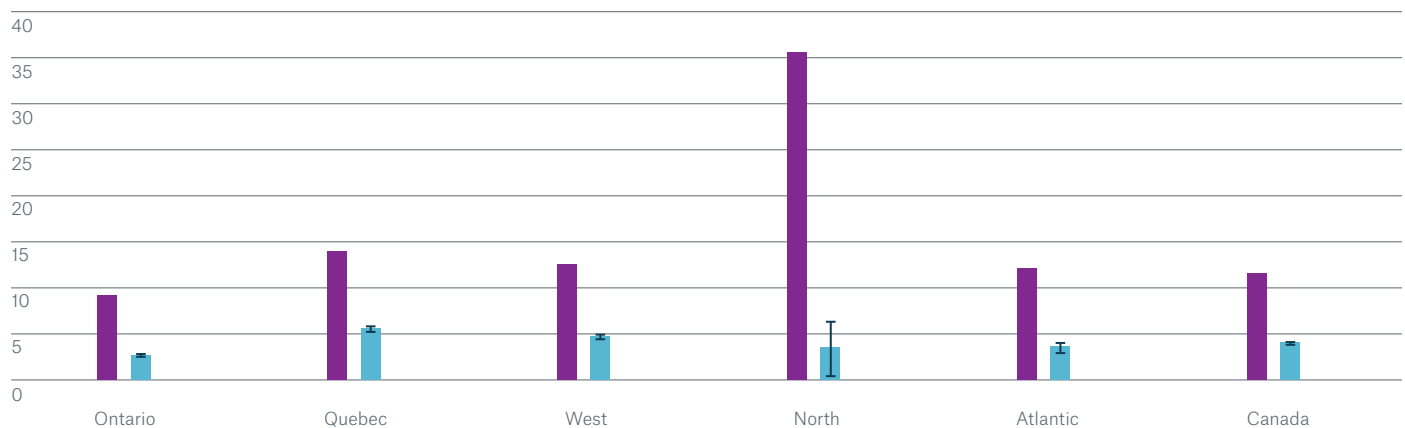


Figure 7. Figures for the general population are from Statistics Canada²⁰. Standardization has been done differently in Figure 7 compared to other figures in this study. More details are available in Appendix A.

The provinces and territories were grouped into the following five regions:

Region	Province or Territory
Western	British Columbia
	Alberta
	Saskatchewan
	Manitoba
Ontario	Ontario
Quebec	Quebec
Atlantic	New Brunswick
	Prince Edward Island
	Nova Scotia
	Newfoundland and Labrador
Northern	Yukon
	The Northwest Territories
	Nunavut

In Figure 7, the error bars for Canadian insurance standardized suicide rates represent +/- 1 standard deviation. Region is determined by the location of policy issue for the insured population while it refers to the usual region of residence for the general population.

Figure 7 shows insured and general population standardized suicide rates by region. In all regions, suicide rates are higher for the Canadian general population than the insured population. General population suicide rates are extremely high in the North, driven by Nunavut where suicide rates are the highest in Canada. The standard deviation for the insured population in the North is higher than all other regions due to low insured volumes in that region. Quebec is 38% higher than the national average while Ontario is lower, and Atlantic and Western Canada have similar rates to the overall average.

4

Canadian Suicide Rate Variation in the Insured Portfolio

In this section, we explore how rates vary in the Canadian insured portfolio, using two main data sources.

1. Munich Re's 2008-2017 Experience Study:

This is Munich Re's mortality study that provides suicide rates from the Canadian reinsured population. Suicide rates from this population are expected to be similar to the insured population and are referred to as the "insured population" in this paper. Suicide rates are determined on a per 100,000 coverages reinsured basis and are for paid suicide claims.

2. Munich Re's Reinsured Claims Dataset:

This is a dataset of Canadian claims reinsured with Munich Re that occurred in the period from January 2006 to May 2019.

4.1 MUNICH RE'S 2008-2017 EXPERIENCE STUDY

Seasonality

All results in this section are not standardized since both data sources are already representative of a Canadian insurance portfolio.

Figure 8 shows suicide rates are higher in the second half of the year with the highest rates in September at 5.2 suicides per 100,000, while the lowest are in December at 3.4 per 100,000. We also found that suicide claims are highest on Mondays (16.7%) and lowest on Saturdays (11.1%) in the Canadian insured population.

Suicide Rates by Month 2008 - 2017

Suicide Rate per 100,000

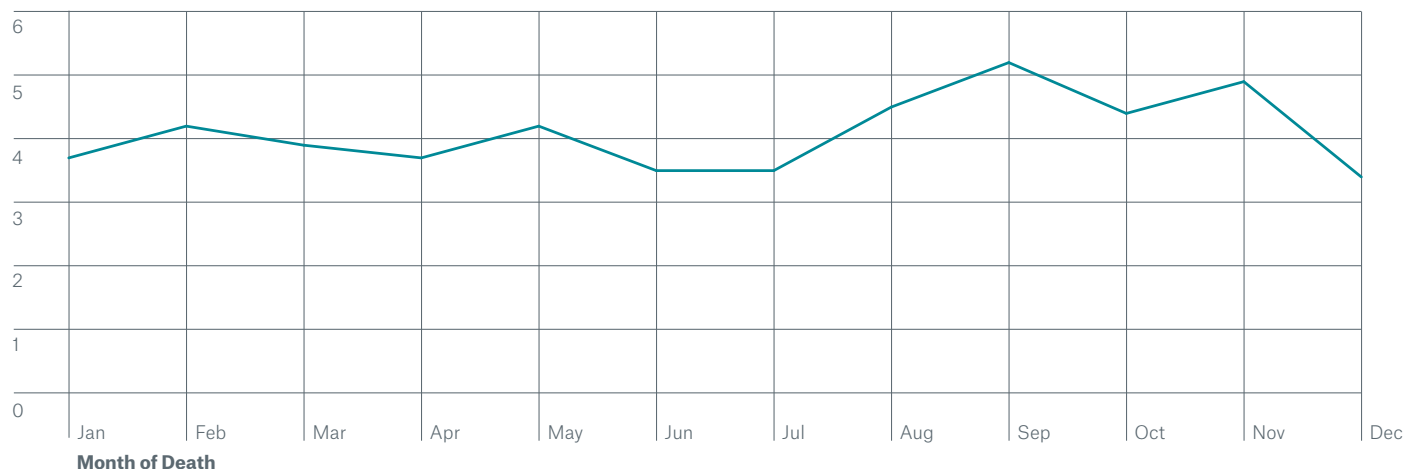


Figure 8.

Face amount band and sex

Suicide Rate by Sex and Face Amount Band 2008 - 2017

Suicide Rate per 100,000

● Female ● Male I +/- 1 Standard Deviation

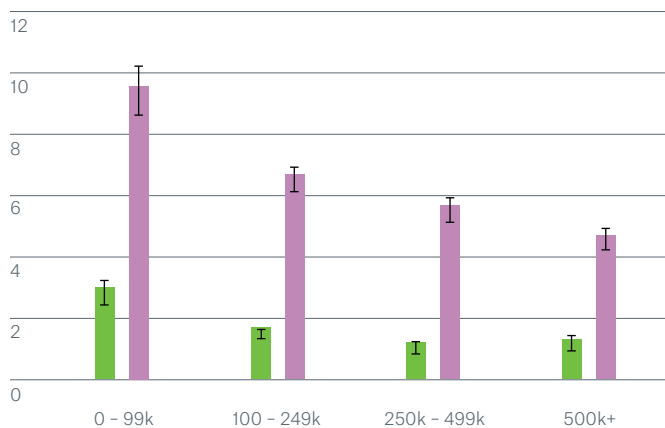


Figure 9. Suicide rate by sex and face amount band. The error bar on each column indicates +/- 1 standard deviation from the suicide rate.

Figure 9 shows that suicide rates decrease with higher face amounts for both sexes. Assuming face amount is positively associated with income, then this pattern is consistent with national figures, which suggest that people who earn a higher income are less likely to make plans for suicide. Specifically, 7% of people in the lowest 20% income bracket have planned suicide in their lifetime compared to 3% in the highest 20% income bracket²².

Smoking status and sex

Suicide Rate by Smoking Status and Sex 2008 - 2017

Suicide Rate per 100,000

I +/- 1 Standard Deviation

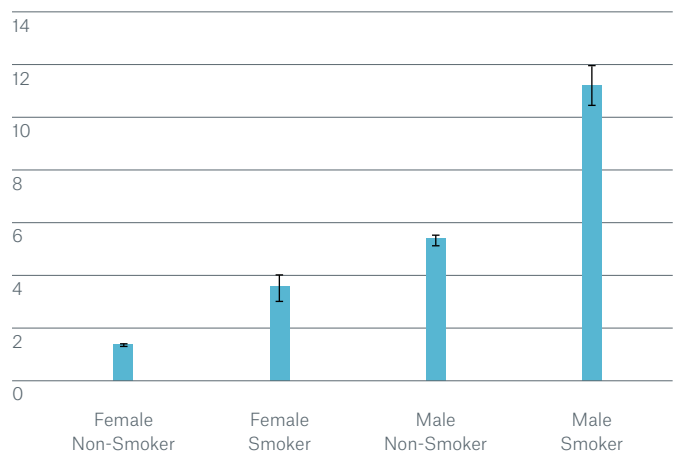


Figure 10. The error bar on each column indicates +/- 1 standard deviation from the suicide rate.

Figure 10 shows suicide rates for smokers are more than double that for non-smokers.

This is consistent with a 2016 study which found that those who were currently smokers (defined as individuals who have smoked at least 100 cigarettes ever and have smoked at least once in the last 30 days) were “associated with an increasing risk of suicidal behaviors” and that it was “a contributing factor to suicide.”²³ The same study found the risk of suicide death for current smokers compared to non-smokers was 80% higher.

The study also suggests the association between smoking and suicide could be from how smoking impacts biological pathways that may increase the risk of suicide or through a relationship with other high-risk behaviors.

4.2 MUNICH RE'S CLAIMS DATASET (JANUARY 2006 TO MAY 2019)

In the two sections below we will explore the distribution of claims by status and injury mechanism, including a comparison of those mechanisms to the Canadian population and the US.

Claim status

In Munich Re's reinsured claim dataset, where cause of death is known, we found that suicides represent:

- 3.8% of all claims (whether paid or not)
- 27.5% of all claims that were denied or rescinded within the first two years from issue
- 9.1% of all claims that were denied or rescinded after the first two years from issue

Suicide by Sex, Population and Known Injury Mechanism 2008-2015 (Population), 2006-2019 (Insured)

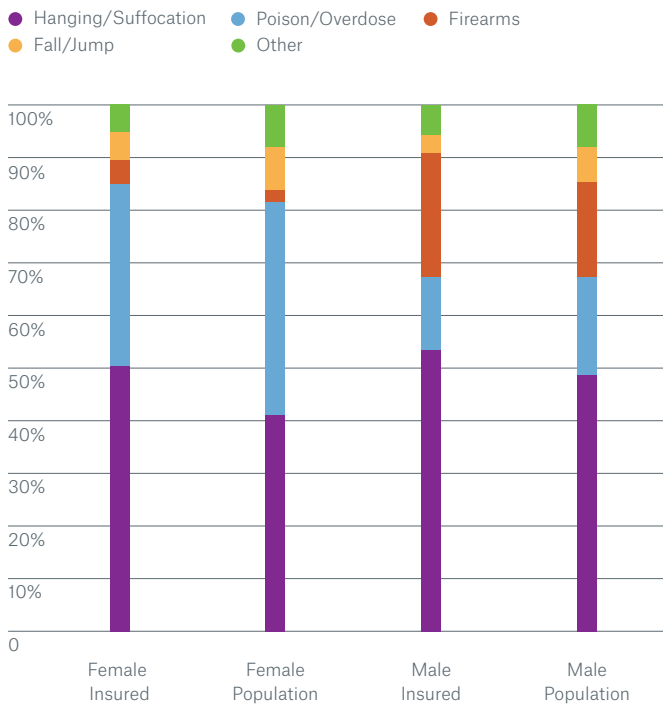


Figure 11.

Known injury mechanism

Figure 11 illustrates suicides by injury mechanism when it is known. Results are not age-standardized and population figures are for 2008-2015²⁴.

Figure 11 shows that the insured population has a comparatively lower proportion of deaths from poisoning/overdose while having a higher proportion of hanging/suffocation and firearms than the general population. Males have a significantly higher share of firearm suicides than females in both populations.

In Canadian insured and general populations, the leading injury mechanism is hanging/suffocation while in the US it is firearms. The proportion of firearm suicides in the US is more than 2.3 times as high as it is in Canada for both the insured and general populations^{24 25 26}.

5

The Suicide Exclusion

The purpose of the suicide exclusion is to discourage someone from taking out a life insurance policy with the intention of taking their own life to pay out their beneficiary. Two years is the predominant suicide exclusion period length in Canada and is hoped to be long enough to remove any incentive life insurance may provide for suicide, but short enough to still provide protection to beneficiaries when an insured takes their own life after the exclusion period. The exclusion also benefits all policyholders as it lowers the overall cost of life insurance making premiums more affordable.

The exclusion period normally starts from the policy effective or reinstatement date. If the face amount of the policy is increased and there is new underwriting, then a separate two-year exclusion applies to the increased portion only, starting from the date of increase. In Quebec, the two-year period is the maximum permitted by law, but it can be shorter²⁷.

5.1 REVISING THE EXCLUSION

Over the last 100 years, most suicide and attempted suicide exclusions included the terminology “while sane or insane”. As noted previously that 90% of Canadians who die by suicide have a mental illness⁶. The use of “sane or insane”, or an equivalent wording, is paramount in order to avoid debates raised by beneficiaries’ lawyers in court regarding the capacity of the insured to realize what they were doing when they died by suicide.

In 2016, the CBC reported that mental health advocates denounced this wording as discriminatory and outdated²⁸. In response, the Canadian Life and Health Insurance Association (CLHIA) noted that there was an industry consensus that using “sane or insane” wording was indeed outdated as it related to mental health and that CLHIA member companies were working to update the exclusions language.

In our Litigation Matters September 2016 edition, Munich Re suggested the following alternatives to “sane or insane” wording²⁹:

...regardless of the state of mind and whether a mental health disorder is present or not at the time of death

...regardless of the state of mind or any health disorder at the time of death.

5.2 DO WE NEED THE SUICIDE EXCLUSION?

Although negative attitudes towards mental illness persist, a 2015 survey found that 57% of Canadians believe that the stigma associated with mental illness has been reduced in the last 5 years⁶. Some insurers have altered or removed the attempted suicide exclusions from disability and group benefit plans, but this is not the case for individual life policies.

In addition, there is debate over the suicide exclusion discriminating against those who develop a mental illness after their policy comes into effect. Dr. David Goldbloom of the CAMH cautions against viewing suicide entirely as an act of free will³⁰. Research in the US found that more than 50% of people who died by suicide did not have a known mental health condition at the time of their death³¹. It can be argued that an individual with no adverse health risks at application time can develop a mental illness after the policy effective date and die by suicide as a result of the illness within the exclusion period. The argument exists that this loss should be covered in the same manner as any other condition that arises after a policy is issued, such as cancer.

Suicide Count as a Percentage of All Known Claims (paid, denied and rescinded)

Suicide as % of all known claims

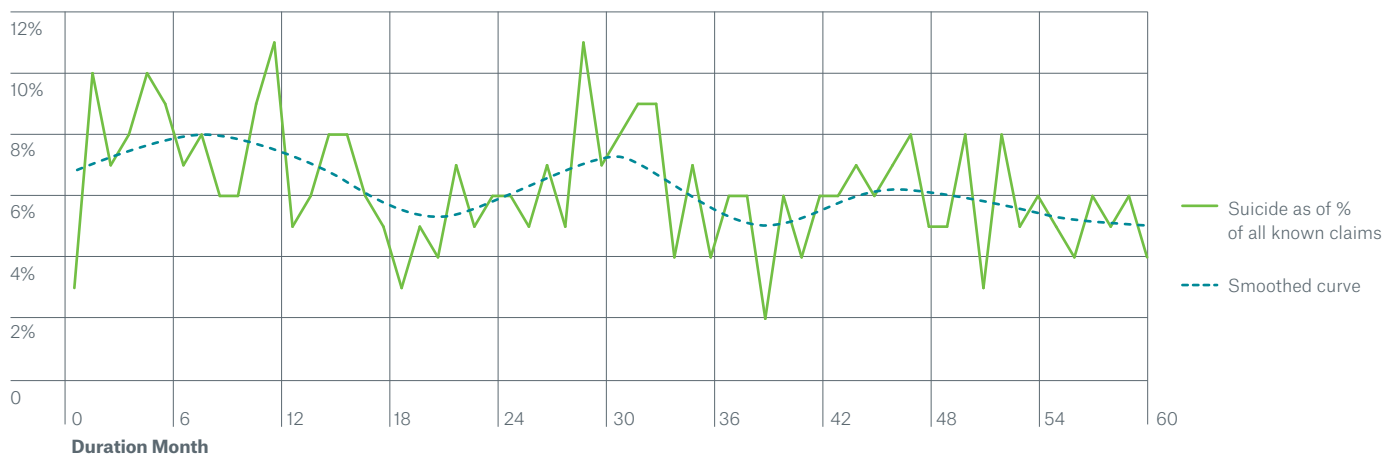


Figure 12.

We analyzed Munich Re's claims data to see if it could shed light on this discussion and found that only 20% of suicide claims within two years of the policy date included a validity review (see section 5.5). This would not provide sufficient data to determine if there was significant mental illness prior to the application date. Of the policies that were rescinded under two years for suicide claims, 75% were based on undisclosed mental illness and of this total, 61% included suicide attempts and/or suicidal ideations.

In Figure 12, we look at how the share of suicide claims vary before and after the exclusion period by looking at rates over the first 60 months from policy issue, where cause of death is known. The smoothed curve in Figure 12 indicates that suicide, as a percentage of all claims, trends upwards in months 22 to 30. This could suggest some insureds are deferring suicide until the exclusion period ends in order to qualify for the death benefit.

However, the results do not conclusively point to premeditated suicide where an insured purchases a life insurance policy with the intention of taking their own life to pay out their beneficiary, as suicides do not spike specifically at month 25, the first month after the exclusion period. Furthermore, the increase in suicides in months 22 to 30 is relatively small.

We believe that the two-year exclusion period is effective at deterring premeditated suicides with the purpose of securing payout to beneficiaries.

5.3 DOLLAR VALUE OF THE SUICIDE EXCLUSION

The suicide exclusion plays a significant role in the pricing of a life insurance policy with the expectation that the exclusion will not be waived due to mental illness or any other reason. Doing so would require a premium rate increase. During the period from January 2006 to May 2019, the face amount of suicide claims denied/rescinded in the first two years totaled \$63M CAD.

5.4 APPLYING THE SUICIDE EXCLUSION

Canadian insurers have different approaches to handling suicide claims within the exclusion period. These include:

- Denying the claim based on the exclusion and advising the claimant that the insurer reserves the right to conduct a validity review of the policy should this become necessary in the future (i.e. due to an appeal, lawsuit or other reason). Validity reviews are described in section 5.5.
- Conducting a validity review of the policy. If the policy is found to be void, the claim is declined based on material misrepresentation on the application. If the policy is found to be valid, the claim is declined based on the suicide exclusion.
- Denying the claim based on the exclusion and not reserving the right to conduct a validity review of the policy.

When a suicide claim is declined during the exclusion period, the insurer will return premiums paid either to the insured's estate or the designated beneficiaries, depending on the contract wording.

5.5 VALIDATING THE POLICY

At time of claim, a validity review may be required. This review consists of verifying the accuracy of the information provided in the application to determine if the policy was issued appropriately. If material misrepresentation or non-disclosure is found then the policy may be rescinded. Otherwise, the policy is deemed valid.

As previously mentioned, only 20% of suicide claims within the first two years underwent a validity review. In some of those cases, a validity review was initiated but later discontinued when obtaining medical records became too difficult.

There are advantages and disadvantages to performing a validity review of the policy. The additional defense of misrepresentation can make for a stronger decline, particularly if the decision is appealed or a legal action is received. On the other hand, validity reviews can be a lengthy process and may require the involvement of family members, who are already coping with the death of the policyholder, to sign authorizations or obtain letters of administration in order to allow an insurer to obtain the insured's medical history.

We suggest that the need for conducting a validity review be considered based on the circumstances of the claim, since suicide denials can be appealed on the basis that the death was accidental or possibly a homicide.

We also recommend that if a validity review is not done, the decline letter indicate that the insurer reserves the right to assert the defense of material misrepresentation at a later date.

6

Claims Best Practices

An insurer has the burden of proving that an insured died as a result of suicide; and thus, should ensure they have sufficient evidence to meet this requirement.

While some claim proofs clearly indicate the manner of death as suicide, other proofs may not make this evident even if the cause was suicide. This can be related to beneficiaries with strong cultural beliefs against suicide or who are simply in denial that the death was a suicide. In some cases, the beneficiary may be aware the insured took their own life but claims the cause of death was accidental in order to receive the death benefit. The insured may also attempt to make their suicide look like an accident (see section 6.3, case study 2). Therefore, a thorough analysis of the claim proofs is required. We also recommend considering obtaining a physician statement.

6.1 ANALYSIS OF CLAIM PROOFS

Claim proofs that indicate the manner of death as blunt force trauma, accidental drug overdose, misadventure, undetermined or under investigation, need to be thoroughly reviewed to clarify the underlying cause of death in order to rule out suicide. We recommend that the following documentation be obtained to assist in determining the manner of death:

- A coroner or medical examiner's report (which can also include an autopsy and toxicology report)
- Police report (witness statements, scene investigation, events leading up the death)
- First responder reports (ambulance, paramedic)
- Hospital records (particularly ER and admittance reports)
- Media reports
- Social media information

The documentation requested will depend on the circumstances of the claim and what information is gathered during the initial adjudication. Investigative firms can be engaged to assist in obtaining this information, and in some cases be requested to interview beneficiaries and witnesses to obtain a clearer picture of the circumstances of the death.

In most cases an official body (coroner, medical examiner, police) will indicate if the death was a suicide and this declaration is heavily relied upon by insurers when determining if the suicide exclusion is applicable. If suicide is not recorded as the manner of death in contentious or suspicious cases, denying a claim based on the suicide exclusion may be difficult to defend. We encourage our clients to seek legal advice on complex cases prior to making a final decision.

6.2 PHYSICIAN STATEMENTS

All suicide claims where the policy has been in force for over two years should be thoroughly reviewed to determine if the claims proofs indicate a history of mental illness that would warrant a validity review.

We strongly encourage insurers to obtain a physician statement for suicide claims that occur after two years but within five years of the policy effective date. In responding to questions regarding antecedent conditions, the physician may indicate prior and/or current long-standing mental illnesses that pre-dated the application. Depending on what is provided, a validity review may be necessary.

Our Canadian data indicates that for policies rescinded after two years in force, where suicide was the cause of death, there was non-disclosure of mental illness 89% of the time. Undisclosed chronic mental illness, suicidal ideations and prior suicide attempts can provide sufficient evidence to support a fraudulent material misrepresentation.

6.3 CASE STUDIES

These are select case studies based on actual claims where best practices were used, enabling the insurer to identify the cause of claim as suicide.

Case Study

1

- Policy was under two years old. Review of medical history found the policy valid.
- Claimant statement did not provide a cause of death.
- Attending physician statement (APS) indicated the cause of death as “found dead at home”.
- A **coroner’s report** was obtained. Cause of death was determined to be mirtazapine toxicity and manner of death ruled a suicide.
- Claim declined under the suicide exclusion.

Case Study

2

- Policy was under two years old. Review of medical history found the policy valid.
- Claimant statement and APS noted the cause of death as blunt force trauma as a result of a motor vehicle accident.
- A **media report** noted the insured had swerved into the path of a snowplow.
- Based on this information, a **medical examiner’s report** was requested.
- The medical examiner noted it was a clear day, no other cars were on the highway, it was a straight road and there were no signs of braking. The manner of death was ruled a suicide.
- Claim declined under the suicide exclusion.

Case Study

3

- Policy was in force for three and a half years.
- Claimant statement noted cause of death as suicide.
- Claim proofs: Funeral Director Certificate and obituary.
- Insurer requested an APS.
- The APS noted a significant history of depression.
- The **insured’s medical chart** was requested and it showed that prior to the application, the insured was treated for major depression, had suicidal ideation, used crack cocaine and abused alcohol. This was not disclosed on the application.
- Underwriting opined that had they known this history, they would have declined to issue the policy.
- Following a review by legal advisors, the policy was rescinded based on fraudulent material misrepresentations.

7

Medical Assistance in Dying (MAiD)

In 1972, suicide and attempted suicide were decriminalized in Canada but assisted suicide remained illegal. Based on a Supreme Court decision in 2015, assisted suicide became legal and in June 2016 the Federal Government passed Bill C-14: Medical Assistance in Dying (MAiD) Act. Quebec had previously passed end-of-life care legislation in December 2015. Provincial jurisdictions subsequently passed legislation that prevented MAiD being used as a reason to deny a benefit that would otherwise be provided under an insurance contract. Life insurance providers determined that a claim would not be denied under the suicide exclusion if medical information confirmed that the insured's death was medically assisted in accordance with Bill C-14.

In September 2019, a Quebec judge found that the restriction in both the federal and Quebec law that limited assisted dying to terminally ill patients whose deaths were reasonably foreseeable was unconstitutional. The case involved two people, one with cerebral palsy and the other with polio, who had met all the MAiD requirements except that they were not terminally ill³². On February 24, 2020, the Canadian government proposed changes to MAiD which would remove the requirement for someone's natural death to be reasonably foreseeable. They also proposed excluding eligibility for individuals suffering solely from mental illness. At the time of this publication, these proposed changes have not been enacted into law.

7.1 CLAIMS ADJUDICATION

For adjudication purposes, insurers' focus should be on clarifying the underlying cause that led to MAiD and determining if a policy validity review is required.

In April 2019, the Canadian government released its fourth interim report on MAiD which stated that since federal legislation was passed there have been 6,749* medically assisted deaths in Canada. Between January 1, 2018 and October 31, 2018, there were 2,614 medically assisted deaths which accounted for 1.1% of all deaths in the country. Cancer was reported as the leading underlying medical condition that led to MAiD and accounted for 64% of cases. The average age for assisted suicide was 72 and 93% of suicides were administered by a physician while 7% were by nurse practitioners³³.

**Data excludes the three territories and some deaths in Quebec.
See References for further details³³.*

7.2 MUNICH RE'S MAiD EXPERIENCE

Munich Re's experience with MAiD claims differed from reporting by the Canadian government in that the average age of people who died by assisted suicide was 60 and their underlying causes were mainly neurological (62%), with cancer being secondary (33%). MAiD claims accounted for 0.1% of all claims over the period from January 2016 to May 2019 (based on 28 MAiD claims). Fifty-seven per cent of claimants were male and the average policy duration at death was 15 years.

8

Suicide and COVID-19

As widely reported in the media, the mental and physical effects of COVID-19 on front line medical professionals has led some to take their own lives³⁴. This has been attributed to several factors including witnessing a surge of patient deaths, stressful work schedules, and dealing with colleagues affected by the virus.

The April 2020 edition of The Lancet Psychiatry noted that the COVID-19 lockdown could have an adverse effect on both people with mental illness and the general population based on fear, self-isolation, and physical distancing leading to depression, anxiety, and post-traumatic stress; all associated with increased suicide risk. The lockdown may also increase other known causes of suicide such as domestic violence, alcohol consumption and loneliness. The mental health consequences of COVID-19 are likely to be present for longer and peak much later than the actual duration of the pandemic⁸. Munich Re is actively tracking both COVID-19 deaths and suicides in order to understand its impact in a proactive manner.

A University of Toronto study noted that the impact of the containment measures on the global economy is projected to dwarf the macroeconomic impact of the 2008-09 financial crisis in magnitude, including unemployment³⁵. The study results showed that an abrupt increase in unemployment in Canada, which has occurred since the lockdown began, is associated with an increase in deaths due to suicide. It also noted that the association between economic distress and adverse mental health outcomes, including suicide, is a highly replicated observation³⁵. In Section 3.1 we were able to replicate this association in the insured data as well, although the association is weak. We anticipate suicide rates to increase for the insured population due to the significant impacts of both the lockdown and the financial disruption caused by the COVID-19 pandemic.

9

What Can Insurers Do?

Beyond the statistics and graphs, suicide is a personal tragedy and a major public health issue. There is the mental anguish that leads a person to take their own life and the shock, emotional pain, and guilt experienced by families, friends, and colleagues that follows a suicide. Suicide prevention measures are extensive and take several forms such as suicide help lines, barriers built around bridges, and facilitating community engagement in suicide prevention activities.

What are we doing as an industry? Some insurers have trained their disability adjudicators on how to handle suicide threats from claimants. In the United Kingdom, a group of insurers and reinsurers, including Munich Re, and two experts in suicide prevention participated in a Pop-Up Lab in 2018. The project team came up with three ideas:

- 1) Noting that a suicide of a family member can be a trigger event for other suicides, the team came up with the idea of insurers sending out handwritten condolences to the beneficiary which would include information on how to seek help and self-care for suicide related cases.
- 2) Promoting mental health awareness on a macro scale in communities.
- 3) Forming an industry working group that would assemble actions taken within the insurance industry that target suicide prevention activities.

A key learning from the Lab was not to be afraid to take on a sensitive subject and attempt to find solutions to a very difficult problem.

Group benefit insurers can also play a significant role in building healthy and positive workplaces in Canada. This includes leveraging new technologies to connect insured individuals with medical health professionals. Innovative solutions like digital psychotherapy, virtual doctor consultations, and mobile apps dedicated to self-care can support individuals in managing their mental health³⁶.

As employers, insurers can support policies that provide healthy and protective work environments and reduce the stigma that is associated with seeking help for mental illness. A collective effort towards destigmatizing mental health and providing resources may lead to eventual suicide prevention.

10

Conclusion

The data and insights provided in this paper can enhance the insurance industry's understanding of suicide, help build informed risk profiles and make better inferences about areas where suicide experience has yet to emerge. Our study shows that Canadian and US suicide rates in the insured population were level, while the suicide rates for the general population were trending upward. We also found that insured and general population suicide rates shared similar patterns by age, sex, and manner of suicide, despite the difference in trend. Specifically, for the insured portfolio, we found suicide rates are higher for males, middle-aged individuals, policyholders with low face amounts, smokers, and for policies issued in Quebec. We believe that these insights add context for Canadian life insurers, specify the suicide risk profile, and reduce uncertainty on how suicide rates may vary.

This study also sheds light on suicides during and after the two-year suicide exclusion period in Canada. Analysis of Munich Re's data provides limited evidence for premeditated suicides. The lack of conclusive evidence for premeditated suicide might be because the two-year exclusion period is sufficiently long enough to diminish the incentive life insurance may give to someone thinking about planning their suicide after the exclusion period ends.

From a claims adjudication perspective, we have provided best practice recommendations on applying the suicide clause, whether a policy validity review is necessary during or after the exclusion period and when to reserve the right to validate policies at a later date.

Munich Re's data provides fresh insights into this important topic and enables meaningful discussion across the industry while raising awareness about suicide, particularly as we look ahead to deal with the continued effects of COVID-19.

SUICIDE PROFILE

Suicide rates are 69% lower for those in the insured population compared to the general population in Canada. Insured population suicides are more likely when policies have the following characteristics:

- Male, where suicide rates are 3.8x higher than female rates
- Suicide rates for female smokers are 2.5 times higher than those for non-smokers. Male smokers have 2.1 times higher suicide rate than non-smokers
- Issued in Quebec or in the West, where suicide rates are 38% higher than the national average
- Lower face amount policies, particularly for males
- Middle-aged or older, starting at age 45
- Hanging/suffocation injury mechanism for both sexes followed by firearms for males and poisoning/overdoses for females

Key validity statistics

- For rescissions in the first two years of issue, 75% had an undisclosed mental illness.
- For rescissions after the first two years of issue, 89% had an undisclosed mental illness.

Other characteristics from the general population that could be relevant to insurance include:

- **Marital Status:** Single (never married) people were 3.3 times more likely to die by suicide than those that are married, followed by those that were widowed and divorced.
- **Occupation:** Suicide rates are more than twice as high for those in unskilled occupations versus those at a managerial level. Further, suicide rates are higher for first responders, police officers, Canadian Forces personnel with a deployment history and war veterans.

APPENDIX A - STANDARDIZATION

Suicide rates in Section 5 were standardized by age and sex to better represent an insured population. Compared to the general population, the insured population has a higher concentration on males and in age group 30-59. A summary of the age and sex distribution is below:

Age and Sex Distribution

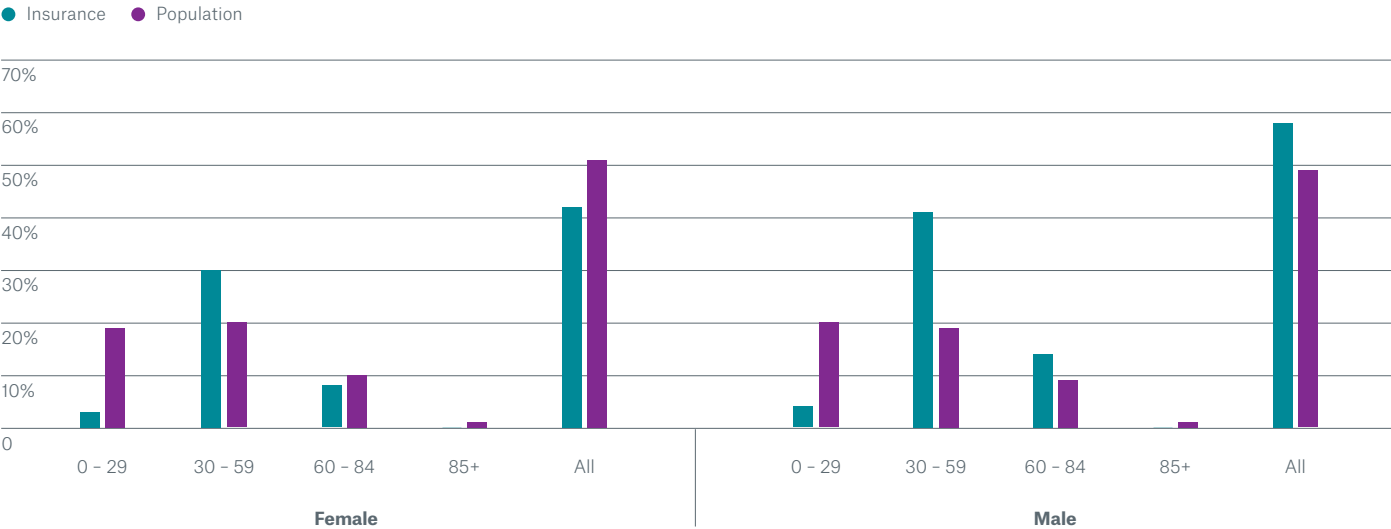


Figure 13.

See below for an illustration of general population suicide rate standardization by sex and age using ages 45 and 46:

Sex	Age	Population Suicide Rate per 100,000	Population Distribution	Insurance Distribution	Insurance Distribution x Suicide Rate	Calculation
Female	45	8.7	25%	21%	1.8	=21% x 8.7
	46	10.1	25%	22%	2.2	=22% x 10.1
Male	45	26.3	25%	28%	7.4	=28% x 26.3
	46	28.2	25%	29%	8.2	=29% x 28.2
Total		18.2	100%	100%	19.6	=Sum of the above
Population Suicide Rate before standardization						18.2
Population Suicide Rate after standardization						19.6

Figure 14.

When general population suicide rates were standardized to the insured population, the distribution was based on exposure count and all available ages were used.

In Figure 7, suicide rates are age-standardized to the 2011 Canadian population found in the Statistics Canada Vital Statistics Death Database – Glossary and male and female rates were averaged³⁷. Canadian population rates are the average of the age-standardized rates for each year from 2008 to 2015, while insured suicide rates are the age-standardized rates for the overall period.

APPENDIX B – UNDERREPORTING OF SUICIDES

All violent, unexplained or unexpected deaths are investigated by a coroner or medical examiner in Canada. After investigation, the coroner or medical examiner assigns a cause of death (e.g. intoxication) and a manner of death (natural, accident, undetermined, homicide or suicide). The intent and cause of death are used to assign an external cause of death code from the International Classification of Diseases, 10th revision (ICD-10). External cause of death codes permit the classification of environmental events and circumstances such as the cause of injury, poisoning, and other adverse effects. This information is then reported to Vital Statistics agencies and eventually becomes part of the general population suicide rates³⁸. This cause and manner of death information is usually obtained by claim professionals when investigating a claim, so any underreporting or misclassification will impact suicide rates for both the general and insured populations.

Suicides are likely underreported in the insured and general populations due to misclassification of the manner of death. One study proposes that causes of misclassification include “stigma, frequency, and extent of autopsies; disagreement amongst death investigators on burden of proof; lack of national death reporting standards; variation in local resources; changing attitudes of officials (e.g., police, coroners) and families involved; age and sex or subgroup of the decedent; rise in opioid poisonings; and the method or injury mechanism of death”³⁸. For these reasons, suicides may be misclassified as other manners of death, particularly unintentional deaths and those of undetermined intent when poisoning was the method. The extent of this underreporting is unknown but would affect both insured and general population suicide figures.

Further underreporting is likely in the Canadian population for suicides reported in 2016, 2017, and 2018 as data in these years was released on a preliminary basis by Statistics Canada. In these preliminary datasets, the data collection period was shortened compared to years prior to 2016.

The data collection period is measured from the time when data collection starts until the cut date. The cut date is set after the end of the reporting period in order to allow some time for incurred deaths to be reported in the system. Consider the following example to see how a shorter collection period can cause more underreporting:

Suppose suicides are being reported for the full calendar year of 2016 and the cut date is March 31, 2017, then the data collection period would be from January 1, 2016 to March 31, 2017. The additional three months in 2017 gives time for suicides incurred in 2016 to be entered into the system in order to give a more complete count for 2016. The additional three months also gives more time for investigations about the manner of death to complete, which could affect the suicide count for 2016. More specifically:

1. Deaths, coded as due to external causes, may need to be investigated by a coroner or medical examiner, which takes time. If “pending” or “under investigation” was recorded for the death at the end of the collection period, the cause of death is coded as “Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified [R00-R99]”.
2. Many deaths due to external causes are initially certified with a cause of death, but the intent or manner is not specified. In these cases, the manner of death is set to unintentional by default, even though it was not specified. This may lead to underreporting of suicide because the manner of death may be amended after the collection date once the investigation by the coroner or medical examiner is complete. This means that the amended manner of death would not be reflected because it was only known after data collection.

Figures 15 and 16 below show the possible extent of underreporting of suicides as well as possible misclassification in the Statistics Canada preliminary data release by comparing against a trend line⁶. Note that Accidents (unintentional injuries) below include accidental poisonings, falls, transport accidents among other external causes of accidental injury.

Canadian Suicides and Unknown Cause of Death by Year
Deaths

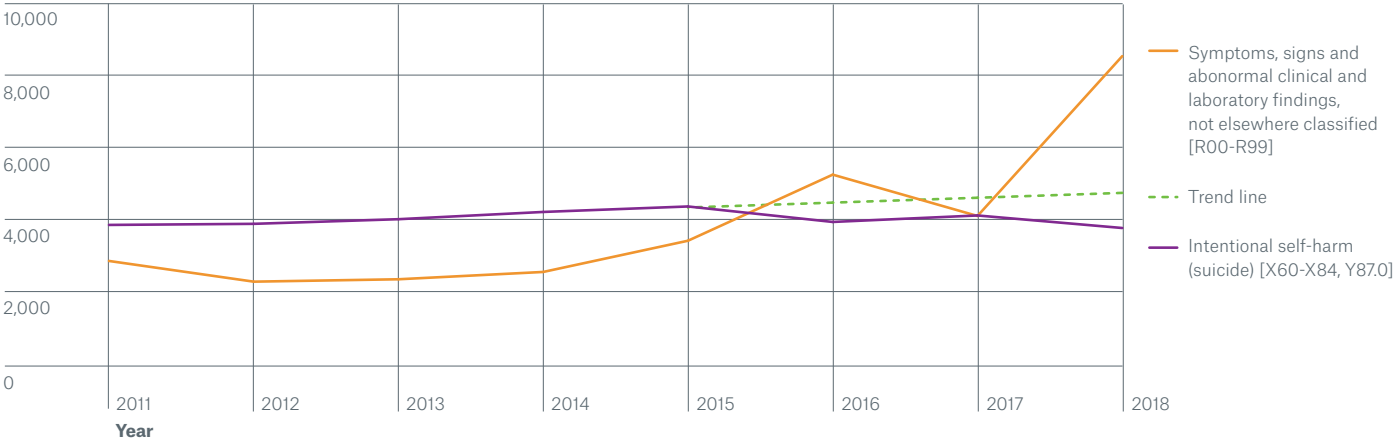


Figure 15.

Canadian Suicides and Accidental Cause of Death by Year
Deaths

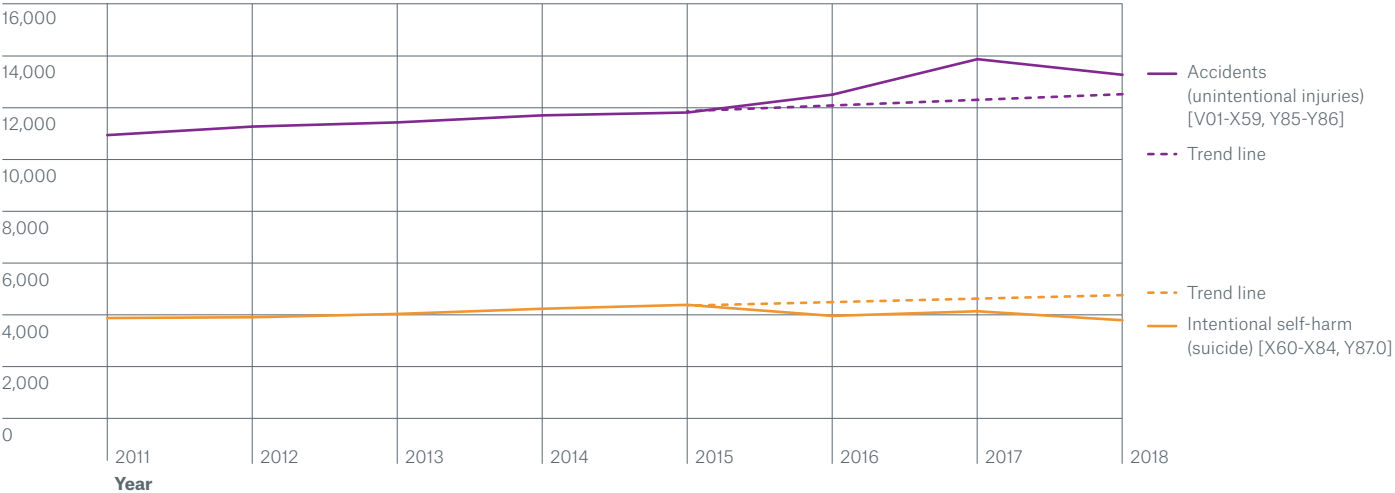


Figure 16.

In both Figures 15 and 16, we see a sudden drop in suicides for 2016 and later compared to a linear trend line based on 2011-2015. We believe that this drop, when considered with a corresponding increase in accidents and unclassified deaths, is strong evidence for underreporting of suicides in the 2016, 2017, and 2018 preliminary data releases.

- World Health Organization (WHO). (2019, September). Suicide in the World: Global Health Estimates. Retrieved on December 7, 2020 from <https://www.who.int/teams/mental-health-and-substance-use/suicide-data>
- Government of Canada. (2020, September 19). Working Together to Prevent Suicide in Canada. Annex A, p 33. Retrieved on December 7, 2020 from: <https://www.canada.ca/content/dam/canada/publichealth/migration/publications/healthy-living-vie-saine/framework-suicide-cadre-suicide/alt/framework-suicide-cadre-suicide-eng.pdf>
- Staying Alive: Why the global suicide rate is falling. (November 24, 2018). The Economist, 13. <https://www.economist.com/leaders/2018/11/24/why-suicide-is-falling-around-the-world-and-how-to-bring-it-down-more>
- Government of Canada. (2020, September 19). Working Together to Prevent Suicide in Canada. Introduction, p 2. Retrieved on December 7, 2020 from: <https://www.canada.ca/content/dam/canada/publichealth/migration/publications/healthy-living-vie-saine/framework-suicide-cadre-suicide/alt/framework-suicide-cadre-suicide-eng.pdf>
- Centre for Addiction and Mental Health (CAMH). (2018, June 21). People with schizophrenia account for more than 1 in 10 suicide cases. Retrieved on December 7, 2020 from <https://www.camh.ca/en/camh-news-and-stories/people-with-schizophrenia-account-for-more-than-1-in-10-suicide-cases>
- Centre for Addiction and Mental Health (CAMH). (2018, June 21). Mental Illness and Addiction: Facts and Statistics. Retrieved on December 7, 2020 from <https://www.camh.ca/en/driving-change/the-crisis-is-real/mental-health-statistics>
- Mental Health Daily. (2014, July 23). 15 Common Causes Of Suicide: Why Do People Kill Themselves? Retrieved on December 7, 2020 from: <https://mentalhealthdaily.com/2014/07/23/15-common-causes-of-suicide-why-do-people-kill-themselves>
- Gunnell, D., Appleby, L., Arensman, E., Hawton, K., John, A., Kapur, N., Khan, M. M., O'Connor, R. C., & Pirkis, J. (2020). Suicide risk and prevention during the COVID-19 pandemic. The Lancet Psychiatry, 7(6), 468 – 471. [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)
- Zai, C. C., de Luca, V., Strauss J, Tong, R. P., Sakinofsky, I., & Kennedy, J. (2012). Genetic Factors and Suicidal Behavior. In Y Dwivedi (Ed.), The Neurobiological Basis of Suicide. <https://www.ncbi.nlm.nih.gov/books/NBK107191/>
- Turecki G. (2014). Epigenetics and suicidal behavior research pathways. (2014). American journal of preventive medicine, 47(3 Suppl 2), S144–S151. <https://doi.org/10.1016/j.amepre.2014.06.011>
- Mustard, C. A., Bielecky, A., Etches, J., Wilkins, R., Tjepkema, M., Amick, B. C., Smith, P. M., Gnam, W. H., & Aronson, K. J. (2010). Suicide Mortality by Occupation in Canada, 1991–2001. The Canadian Journal of Psychiatry, 55(6), 369–376. <https://doi.org/10.1177/070674371005500606>
- The Canadian Press. (2014, October 5). Troubled cops need more government help, mental health experts say. <https://www.cbc.ca/news/canada/ottawa/troubled-cops-need-more-government-help-mental-health-experts-say-1.2788319>
- Kristen Simkus, L. V. (2017). Veteran Suicide Mortality Study 1976 to 2012. Charlottetown: Veterans Affairs Canada. <https://www.veterans.gc.ca/eng/about-vac/research/research-directorate/publications/reports/vsms-2017>
- Rolland-Harris, E. (2017, October). Report on Suicide Mortality in the Canadian Armed Forces (1995 to 2016). The Department of National Defense. <https://www.canada.ca/en/departement-national-defence/corporate/reports-publications/health/2017-report-on-suicide-mortality-in-the-caf-1995-to-2016-abridged-version.html>
- Statistics Canada. (2019, December 13). Suicide rates: An overview. <https://www150.statcan.gc.ca/n1/pub/82-624-x/2012001/article/11696-eng.htm>
- Government of Canada. Suicide: risks and prevention. (2016, September 9). <https://www.canada.ca/en/public-health/services/suicide-prevention/suicide-risks-prevention>
- Government of Canada. Suicide in Canada. (2019, December 13). <https://www.canada.ca/en/public-health/services/suicide-prevention/suicide-canada.html>
- Statistics Canada. (2020, August 9). Deaths and age-specific mortality rates, by selected grouped causes. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310039201>
- Statistics Canada. (2019, December 13). Population estimates on July 1st, by age and sex. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501>
- Statistics Canada. (2020, August 9) Leading causes of death, total population (age standardization using 2011 population). Retrieved on December 7, 2020 from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310080101>
- Centers for Disease Control and Prevention. (n.d) Underlying Cause of Death, 1999–2017. <http://wonder.cdc.gov/ucd-icd10.html>
- Government of Canada. (2019, December 13). Suicide in Canada: Key Statistics. <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/healthy-living/suicide-canada-key-statistics-infographic/pub-eng.pdf>
- Poorolajal, J., & Darvishi, N. (2016). Smoking and Suicide: A Meta-Analysis. PLOS One. <https://doi.org/10.1371/journal.pone.0156348>
- Statistics Canada. Deaths, by cause, Chapter XX: External causes of morbidity and mortality (V01 to Y89). <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310015601>

25. Centers for Disease Control and Prevention. (2018). Underlying Cause of Death 1999-2017. Request from CDC WONDER Online Database released December 2018. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/ucd-icd10.html>
26. Munich American Reassurance Company. (2019 December). Suicide: Best Practices for Life Claims. <https://www.munichre.com/us-life/en/perspectives/suicide-mortality/suicide-life-claims.html>
27. Civil Code of Quebec, Article 2441
28. Luke, M. (2016, March 30). Insurance company drops “discriminatory” policy on suicide attempts. CBC.: <https://www.cbc.ca/news/health/insurance-mental-health-suicide-policies-self-harm-1.3510407>
29. Munich Reinsurance Company. (2016, September). The “whether sane or insane” wording debate. <https://www.munichre.com/ca-life/en/perspectives/2016/sane-insane.html>
30. Swain, D. (2015, December 9). Suicide attempts and insurance: Why you might not be covered. CBC. <https://www.cbc.ca/news/health/suicide-attempts-health-insurance-plans-1.3355881>
31. Centers for Disease Control and Prevention. (2018, June 7). Suicide Rising Across the US. <https://www.cdc.gov/vitalsigns/suicide>
32. Ha, T. T., Grant, K. (2019, September 11). Quebec court strikes down restrictions to medically assisted dying law, calls it unconstitutional. The Globe and Mail. <https://www.theglobeandmail.com/life/health-and-fitness/article-quebec-court-strikes-down-parts-of-laws-on-medically-assisted-death/>
33. Government of Canada. (2019, April 25). Fourth Interim Report on Medical Assistance in Dying. <https://www.canada.ca/en/health-canada/services/publications/health-system-services/medical-assistance-dying-interim-report-april-2019.html>
34. Orr, C. (2020, April 29). ‘COVID-19 kills in many ways’: The suicide crisis facing health-care workers. Canada’s National Observer. <https://www.nationalobserver.com/2020/04/29/analysis/covid-19-kills-many-ways-suicide-crisis-facing-health-care-workers>
35. McIntyre, R. S., & Lee, Y. (2020). Projected increases in suicide in Canada as a consequence of COVID-19. *Psychiatry research*, 290, 113104. <https://doi.org/10.1016/j.psychres.2020.113104>
36. Smith, R. (2019, November). Meeting the mental health needs of a multi-generation workforce in the digital age: An insurer’s perspective. Canadian Life and Health Insurance Association. <https://www.clhia.ca/domino/html/clhia/Publications/spark.nsf/ebarticle/50145E751DDFB9468525849E00678C8E?Opendocument>
37. Statistics Canada. (n.d.). Vital Statistics Death Database – Glossary. https://www.statcan.gc.ca/eng/statistical-programs/document/3233_D4_T9_V2
38. Skinner, R., McFaull, S., Rhodes, A. E., Bowes, M., & Rockett, I. R. H. (2016). Suicide in Canada: Is Poisoning Misclassification an Issue? *The Canadian Journal of Psychiatry*, 61(7), 405–412. <https://doi.org/10.1177/0706743716639918>



© 2021 by Munich Reinsurance Company. All Rights Reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without the permission in writing from Munich Reinsurance Company.