"Our Next Generation": Moving Towards a Surveillance and Prevention Framework for Youth Suicide in Saskatchewan First Nations and Métis Populations

Caroline L. Tait and Peter Butt
University of Saskatchewan

Robert Henry
University of Calgary

Roger Bland
University of Alberta

ABSTRACT

Suicide is a concern for many Indigenous communities in Canada. Suicide rates in Canada have decreased but rates in Saskatchewan remain above the national average. In northern Saskatchewan, where First Nations and Métis people make up 85% of the population, suicide rates are well above the national rate. The majority of reported suicides in this region are committed by adolescents and young adults. However, the current rate of suicide among First Nations and Métis youth in Saskatchewan cannot be determined because ethnicity is not tracked on hospitalization and coroner records. Our study argues this is a barrier to suicide prevention in Indigenous populations and recommends improvements to the design and implementation of suicide surveillance and prevention strategies.

Keywords: suicide, surveillance, adolescents, youth, Indigenous, First Nations, Métis

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Caroline L. Tait, Department of Psychiatry, University of Saskatchewan, Saskatoon, Saskatchewan; Robert Henry, Department of Sociology, University of Calgary, Calgary, Alberta; Roger Bland, Department of Psychiatry, University of Alberta, Edmonton, Alberta; Peter Butt, Department of Family Medicine, University of Saskatchewan, Saskatoon, Saskatchewan.

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Correspondence concerning this article should be addressed to Caroline L. Tait, Department of Psychiatry, University of Saskatchewan, St. Andrew's College, 1121 College Dr., Saskatoon, SK, S7N 0W3. Email: caroline.tait@usask.ca

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RÉSUMÉ

Le suicide est une préoccupation dans plusieurs collectivités au Canada. Et, si le taux de suicide a baissé globalement au pays, en Saskatchewan il reste au-dessus de la moyenne nationale. De plus, dans le nord de cette province, où les membres des Premières nations et les Métis forment 85 % de la population, le taux de suicide est de beaucoup supérieur à la moyenne nationale, et la majorité des suicides qui y sont rapportés sont commis par des adolescents et de jeunes adultes. Toutefois, on ne connaît pas le taux précis de suicide des jeunes de ces communautés, parce que l'origine ethnique n'est pas mentionnée dans les rapports des hôpitaux ni dans ceux du coroner. Dans cet article, les auteurs avancent que cela est un obstacle à la prévention du suicide dans les populations autochtones, et ils recommandent que la conception et la mise en place des activités de surveillance et des stratégies de prévention du suicide soient améliorées.

Mots clés : suicide, surveillance, adolescents, jeunes, Autochtones, Premières nations, Métis.

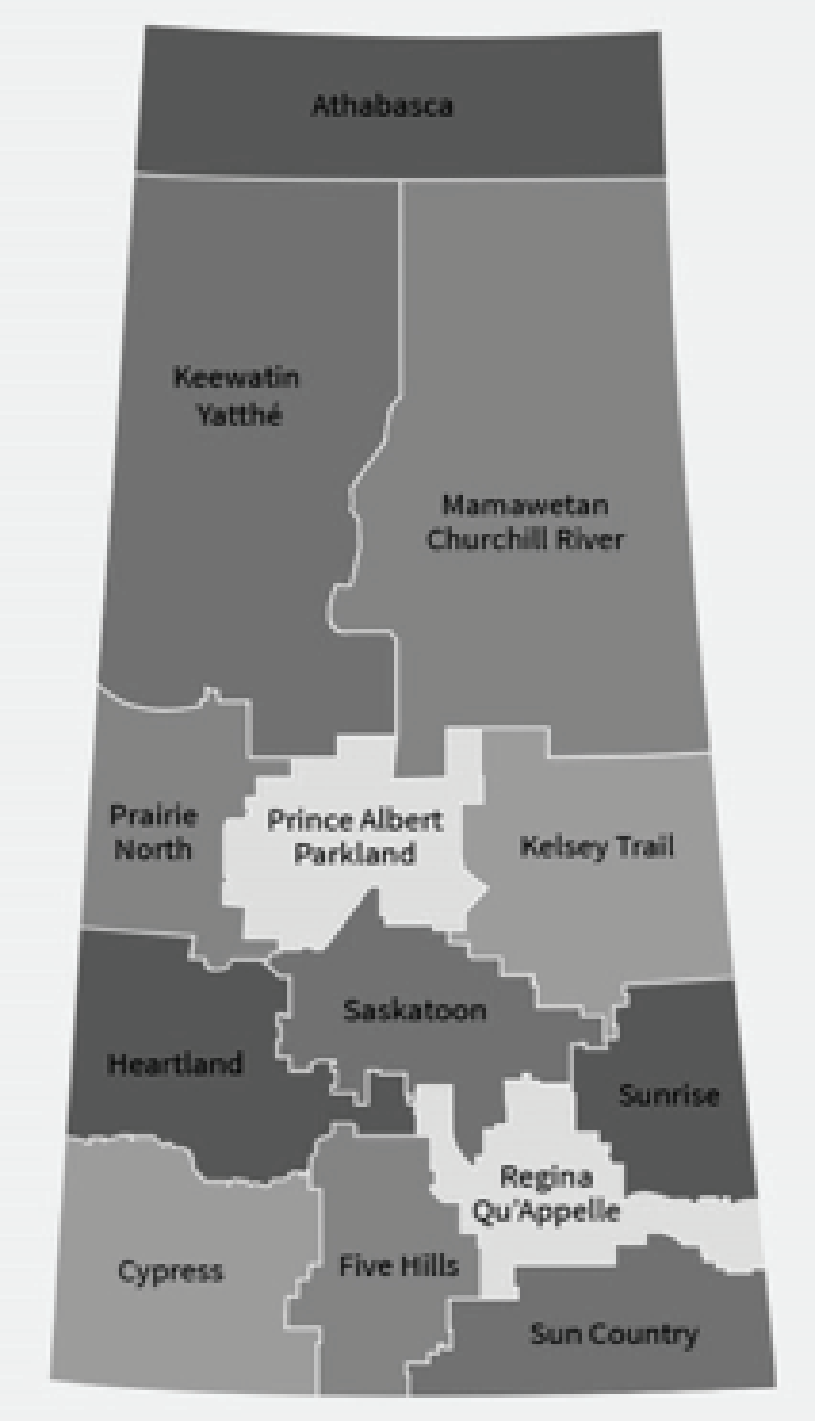
Saskatchewan's Indigenous population makes up 15.6% (~10% First Nations, ~5% Métis) of the province's 1.13 million residents (Statistics Canada, 2013a), and in northern Saskatchewan represents over 85% of the population (Irvine & Quinn, 2016). More than half of the First Nations population lives on a reserve in one of Saskatchewan's 70 First Nations communities (Indian and Northern Affairs, 2008; Statistics Canada, 2012). Saskatchewan has 13 regional health authorities (RHAs; see Figure 1; Government of Saskatchewan, n.d.) and the federal government is responsible for on-reserve healthcare services (Health Canada, 2004).

Suicide is the ninth leading cause of death in Canada and the second only to accidental deaths for individuals aged 15 to 34 (Navaneelan, 2012). While the age-standardized suicide mortality rate in Canada has decreased (from 11.4 in 2000 to 10.4 per 100,000 in 2012), rates in Saskatchewan (11.9/100,000 for 2012) remain above the national average (see Figure 2; Statistics Canada, 2014). However, age-standardized rates do not necessarily distinguish subpopulations who are at elevated risk or those most resilient to suicide, and inadequacies in reporting and tracking may skew rates.

This report reviews suicide data for Saskatchewan's Indigenous populations. Our findings point to prolonged elevated rates of suicide in some northern First Nations and Métis populations, particularly among youth (under age 25). We also found elevated rates of youth suicide may likewise exist in Indigenous populations in other regions of the province; however, inadequacies in the recording and tracking of RHA data make it impossible to distinguish rates of suicide for Indigenous peoples from those of the general population. We address these concerns by providing direction for improved suicide surveillance that will contribute to the development of a robust suicide surveillance and prevention framework, specifically for at risk Indigenous youth.

Figure 1

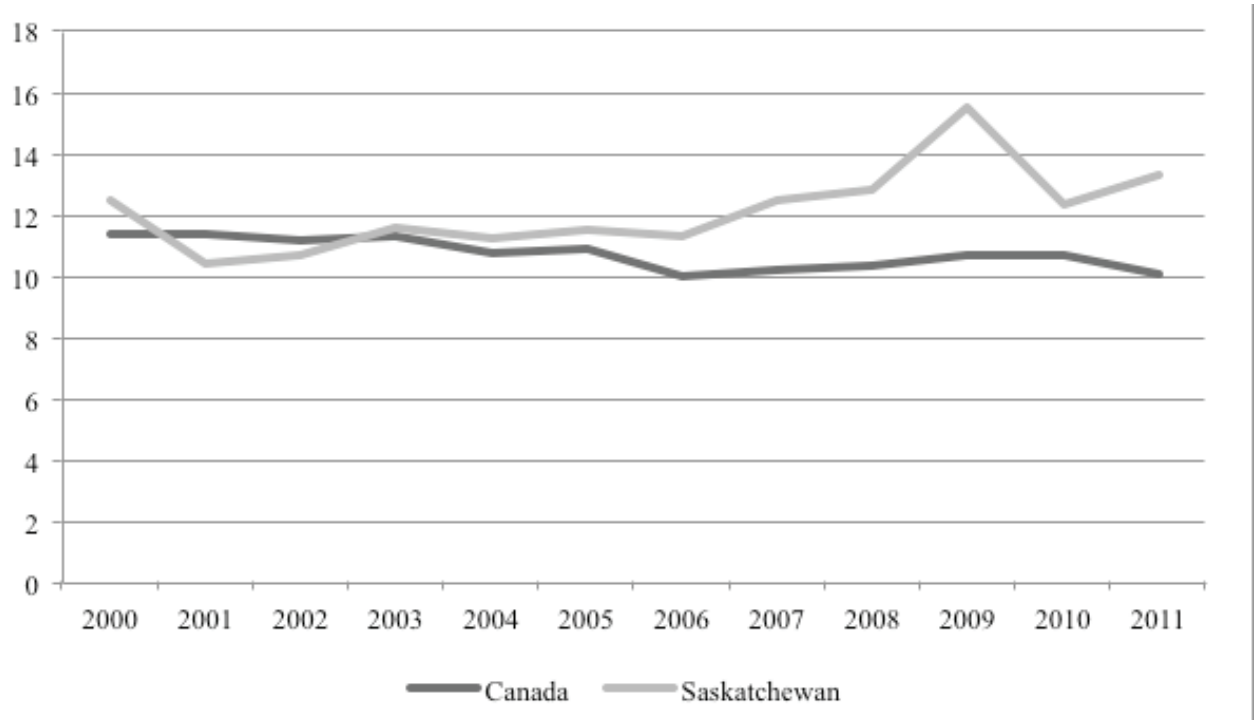
Map of Saskatchewan Health Regions



Source: Retrieved from the Government of Saskatchewan (n.d.).

Figure 2

Age standardized suicide mortality rates for Saskatchewan and Canada per 100,000 people



Source: Retrieved from Statistics Canada (2014).

Methods

PubMed, Web of Science, ProQuest Public Health, and Google Scholar were searched for suicide-related studies using configurations of the terms Aboriginal, Indigenous, First Nation, Métis, suicide, youth, adolescent, young adult, male, female, Canada, and Saskatchewan. Federal and provincial government and non-government websites were also searched, including Statistics Canada, Saskatchewan Ministry of Health, and Saskatchewan RHAs. The most relevant data came from the RHAs and Statistics Canada but were found to be greatly lacking, pointing to the need for increased Saskatchewan-specific research. This study uses the designations First Nations and Métis whenever possible, and Indigenous as an umbrella term. Our analysis and recommendations are also based upon our extensive clinical and research experience with northern Saskatchewan communities.

Saskatchewan Suicide Rates

The available Saskatchewan suicide data come from provincial level sources (i.e., vital statistics, health administrative data), compiled nationally and shared federally. Data are generally aggregated by gender and RHA. Comparisons are problematic because each source collects and reports their data differently and gaps exist (e.g., time lapses in data collection, limited attention to age or ethnicity).

According to Statistics Canada, hospitalization rates for self-injury are elevated in Saskatchewan (81/100,000) compared to the national average (67/100,000; see Table 1; Statistics Canada, 2013b). Across Canada, hospitalization rates for self-injury are often used as a proxy for attempted suicide rates (Navaneelan, 2012). Because attempting suicide is a predictor of risk for future attempts or death (risk highest in the 3 to 6 months following an attempt; Bridge, Goldstein, & Brent, 2006; Hawton & Harriss, 2007), failing to distinguish between self-harm and attempted suicide not only skews the data but also hinders identification and tracking of populations at elevated risk. The absence of clinical tools to track attempted suicides also raises the question of whether suicide reporting frameworks are sophisticated enough to distinguish suicide attempts and suicide from accidental injuries or deaths.

Table 1

Aboriginal, total youth population percentages based on 2005/2007 population estimates; age-standardized suicide mortality rates (total, male, and female) for 2012; and age-standardized self-injury hospitalizations rates for 2012 by provinces/territory and nationally.

	Aboriginal identity as a % of total population[a]	Age-standardized mortality rate due to suicide per 100,000[b]			Age-standardized self-injury hospitalization rate per 100,000b		
		Total	Male	Female	Total	Male	Female
Canada	4.3	10.4	16	5.1	67	54	80
Alberta	6.2	12.2	18.3	6	59	49	70
British Columbia	5.4	9.5	14.5	4.7	79	62	96
Manitoba	16.7	13.4	18	9	68	48	88
New Brunswick	3.1	13.9	22.5	5.5	85	67	103
Newfoundland and Labrador	7.1	7.8	12.3	3.4	86	72	101
Northwest Territories	51.9	18.4	30.5	5.0	210	*X*	273
Nova Scotia	3.7	11	15.9	6.3	72	59	85
Nunavut	86.3	63.5	93.9	30.6	383	*X*	*X*
Ontario	2.4	8.5	13.1	4.1	63	50	77
Prince Edward Island	1.6	5.8	7.4	4.4	57	37	75
Quebec	1.8	12.2	18.9	5.4	59	50	68
Saskatchewan	15.6	11.9	18.6	5.1	81	60	102
Yukon	23.1	18.7	30	6.8	175	*X*	228

Note. X suppressed to meet the confidentiality requirements of the *Statistics Act* (Government of Canada, 2005). N/A not available.

[a] Statistics Canada (2013a).

[b] Statistics Canada (2013b).

Statistics Canada reports male and female age-standardized suicide mortality rates and self-injury hospitalization rates for Saskatchewan's RHAs and two largest cities, Regina and Saskatoon (see Table 2; Statistics Canada, 2013b); complete data are available for only 3 of the 13 RHAs. Because suicide is a relatively rare occurrence, the number of suicides within an RHA is typically very small. When the data are broken down by age and/or gender, they can be suppressed due to confidentiality requirements of the *Statistics Act* (Government of Canada, 2005).

Table 2

Aboriginal, total youth population percentages, suicide mortality rates (total, male, and female) based on 2005/2007 population estimates and age-standardized self-injury hospitalizations rates for 2011/12 by Saskatchewan health region, and major metropolitan areas in Saskatchewan.

	Aboriginal identity as a % of total population[a]	Age-standardized mortality rate due to suicide per 100,000[b]			Age-standardized self-injury hospitalization rate per 100,000[c]		
		Total	Male	Female	Total	Male	Female
Health Regions							
Athabasca	96.1	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Cypress	3.2	*X*	*X*	*X*	34	*X*	38
Five Hills	3.9	11.6	18.6	4.5	75	62	88
Heartland	3.2	*X*	11.7	*X*	79	X	60
Keewatin Yatthé	93.5	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Kelsey Trail	16.7	10.0	*X*	*X*	132	*X*	191
Mamawetan Churchill River	82.5	*N/A*	*N/A*	*N/A*	*X*	*X*	*X*
Mamawetan/Keewatin/Athabasca	86.8	33.7	56.0	12.1	*N/A*	*N/A*	*N/A*
Prairie North	30.3	14.3	*X*	*X*	156	102	209
Prince Albert Parkland	38.9	10.3	*X*	*X*	66	65	68
Regina Qu'Appelle	12.3	8.8	11.9	5.9	84	63	105
Saskatoon	9.5	10.6	15.6	5.9	52	34	73
Sun Country	5.0	13.9	*X*	*X*	*N/A*	*N/A*	*N/A*
Sunrise	8.9	9.1	*X*	*X*	77	65	89
Metropolitan Areas							
Regina	9.4	8.7	11.8	6.1	*N/A*	*N/A*	*N/A*
Saskatoon	9.3	10.6	15.6	5.8	*N/A*	*N/A*	*N/A*

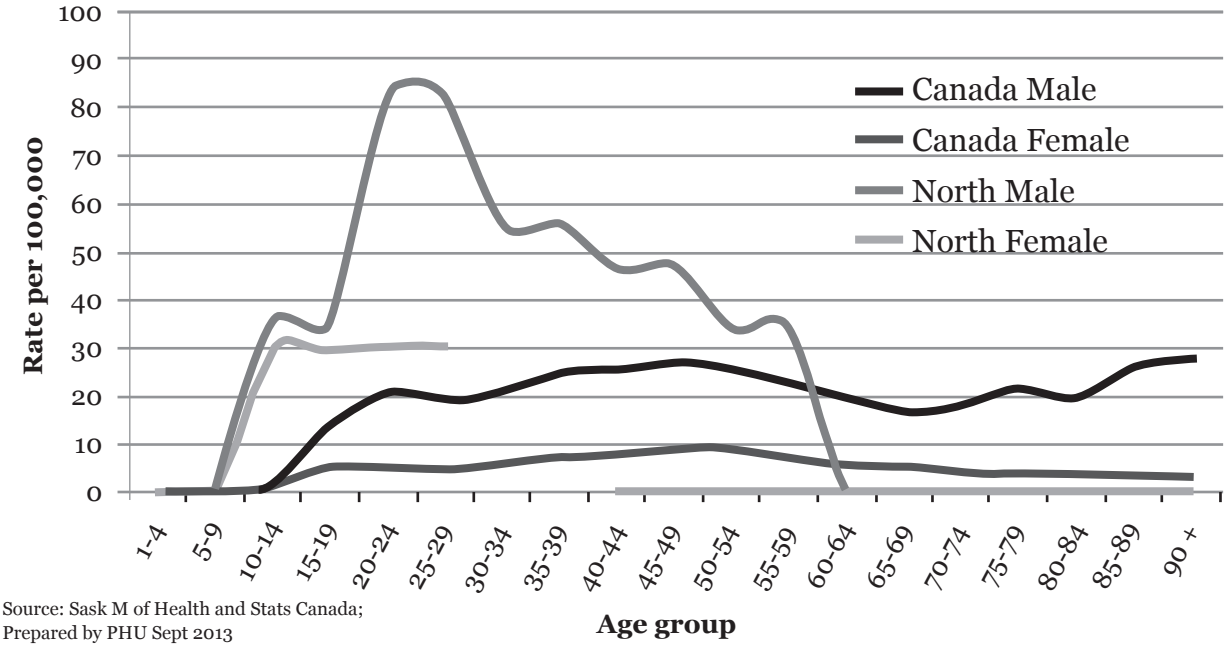
Note. X suppressed to meet the confidentiality requirements of the *Statistics Act* (Government of Canada, 2005).
N/A not available.
[a] Statistics Canada (2013a).
[b] Statistics Canada (2014).
[c] Statistics Canada (2013b).

The challenge in interpreting RHA suicide data is that rates can shift considerably from year to year, particularly in the smaller RHAs and also due to the way Statistics Canada reports suicide rates. This presents an obstacle with respect to drawing comparative conclusions across RHAs and identifying subpopulations who may be at higher risk (see Table 2; Statistics Canada, 2013b). Identifying RHA trends in Saskatchewan requires tracking rates and trends over several years with the inclusion of identifiers such as age, gender, Indigenous identity, socioeconomic status, and postal codes.

The Saskatchewan government identifies Indigenous populations as being at elevated risk for suicide-related deaths and injury (Saskatchewan Ministry of Health, 2012); however, RHAs do not track cause of death or reasons for hospitalization by ethnicity. Because over 85% of the ~40,000 residents in northern Saskatchewan identify themselves as Aboriginal or Indigenous (Irvine & Quinn, 2016), it is assumed that the high rates of suicide and hospitalization for self-injury reported by Saskatchewan's three northern RHAs (Keewatin Yatthé, Mamawetan Churchill River, and Athabasca Health Regions; Irvine, Quinn, & Stockdale, 2011) represent rates among Indigenous groups. Based upon age, rates of suicide among youth residing in the north far exceed those found in the general Canadian population (see Figure 3; Irvine et al., 2011; Irvine, 2014). The northern Indigenous population comprises approximately one fifth of the total Indigenous population of Saskatchewan (Statistics Canada, 2013a); however, suicide rates are not reported by ethnicity so it is unclear if the elevated rates in the north reflect both Métis and First Nations populations or if rates for First Nations and/or Métis are elevated in other regions of the province.

Figure 3

Deaths by suicide in Canada (2000–2007) and Northern Saskatchewan (2000–2009)



Source: Sask M of Health and Stats Canada;
Prepared by PHU Sept 2013
* Suppressed < 5: North data is in 10 year age groups

Source: Reprinted with permission from Irvine, (2014).

Suicide, even where rates are elevated, is a rare occurrence and therefore identifying subpopulations at increased risk is difficult when RHA data are inconclusive. Determining rates of suicide-related deaths and injury across Status First Nations, Non-Status First Nations, Métis, and across urban, rural and reserve Indigenous populations is currently impossible. RHAs can identify Status First Nations using Indian Status numbers, but this information is presently not systematically or reliably tracked for vital statistics or hospitalization.

Suicide clusters in northern Saskatchewan have drawn media attention and reinforced the idea that Indigenous youth suicide is primarily a northern problem (e.g., Hill, 2015; CBC News, 2008). The challenges in addressing youth suicide in the north, but also in reserve and rural Métis communities generally, are compounded by the absence of readily available health, education, and social welfare prevention and intervention supports (National Collaborating Centre for Aboriginal Health, 2011). Local front-line workers, specifically first responders and victim services, along with community leaders are uniquely challenged in this context: It is not uncommon for victims of suicide to be their relatives or family friends or for front-line workers to be called to multiple tragedies in a short period (Dr. Veronica McKinney, personal communication, October 4, 2016). Unfortunately, robust reinforcement strategies that support front-line workers when crises occur are not readily available, compounding the impact on affected communities.

Because hospitalization or deaths in the province are not tracked by ethnicity, it is also impossible to determine rates of suicide for First Nations and Métis living outside of the north. Two studies focusing on Saskatchewan youth in grades 5 to 8 found that 23% of First Nations youth living on-reserve within the Saskatoon Tribal Council and 19% of First Nations and Métis youth living in Saskatoon had experienced suicide ideation within the year prior to the study; this is 3 and 2.5 times, respectively, higher than for non-Indigenous youth in Saskatoon (8.5%; Lemstra et al., 2008; Lemstra, Rogers, Moraros, & Grant, 2013). These findings are of concern given that approximately 30% of individuals who experience suicide ideation go on to attempt suicide (Nock et al., 2008).

While healthcare providers may know which Indigenous communities experience the highest rates of suicide-related hospitalization and deaths, the rare occurrence of suicide makes it difficult for local health managers and tribal councils to effectively argue for increased resources based upon cases of suicide-related self-injury and mortality rates. Even when a suicide cluster occurs and an obvious crisis is unfolding, systemic barriers continue to hinder the rapid mobilization of resources and programming. Local mental health resources are all too often overburdened, with clusters of suicide attempts or deaths creating an unmanageable surge in demand for grief, intervention, and prevention services. Risk behaviours by some Indigenous youth further suggest suicide may not always be a single act, but rather a lengthy self-directed and destructive progression undertaken with the expectation that their life may eventually end (Dr. Veronica McKinney, personal communication, October 14, 2016). Significant anecdotal evidence from front-line workers and Indigenous healthcare leaders exists to justify attention being focused on this particular provincial phenomenon.

CONCLUSION

According to the World Health Organization, the most effective suicide prevention interventions are those based on systematic surveillance of suicide rates and the ability to identify at-risk populations and detect changing suicide trends (World Health Organization [WHO], 2012). The data from Saskatchewan suggest that, among Indigenous populations, youth are at the greatest risk. However, without a comprehensive suicide surveillance strategy, determining suicide rates and trends amongst Indigenous youth will remain a challenge, as will implementation of prevention strategies.

Most new research focused on Indigenous youth suicide falls under the umbrella of "implementation science," concentrating on youth resilience, identity, and the development of youth-driven interventions. While these approaches are prioritized, we argue for a larger interdisciplinary research and intervention framework that captures the complexity of risk and protective factors, determines suicide rates and trends, and evaluates community-driven solutions. To ensure cultural safety, the framework must involve Indigenous healthcare leaders in its design, implementation, and protocols and exist alongside provincial Métis- and First Nations-specific youth wellness strategies.

A robust Indigenous youth suicide surveillance framework would allow for increased data collection (e.g., quantitative, qualitative, and clinical) to capture the complexity of suicide both generally and for high-risk regions specifically. Systematically identifying suicide-related risk and protective factors and evaluation of interventions would provide a clearer picture of what types of targeted resources are needed and whether they are working. The inclusion of culturally based interventions and research methodologies that include Indigenous youth in creating youth-centred solutions is key. Central to the success of the framework is the creation of a clinical intake tool that allows patients who have attempted suicide and families of suicide victims to reveal First Nations and Métis identity. Indigenous identity can be cross-referenced with age and postal code to improve surveillance of suicide-related deaths and injury, so Indigenous health leaders can then more easily identify those communities in greatest need of support services. The clinical data collected by coroners, hospitals, and clinics can be fed into a surveillance database designed for this purpose and to track rates and trends from a range of sources (e.g., vital statistics, hospital records, emergency room visits, health services, crisis centres, and surveys) across the province.

Any such movement in this direction will, however, require partnership agreements across health jurisdictions and, most importantly, with First Nations and Métis health leaders. The adoption of First Nations OCAP™ principles for data management, analysis, policy development, and prevention strategies is necessary. For data governance partnership agreements with Métis, engagement of Métis experts in data governance and consideration of the approaches taken in Manitoba and Nunavut can serve as examples to build from. This approach will inevitably heighten the engagement of Indigenous populations, communities, youth, and families in suicide prevention discussions and strategies and, by extension, strengthen Saskatchewan's efforts to design and deliver effective suicide prevention strategies for Indigenous peoples.

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