
Subject: Preventing Deaths by Suicide on Public Infrastructure

Report to: Public Health & Social Services Committee

Report date: Tuesday, January 8, 2019

Recommendations

1. Regional Council as the Board of Health **RESOLVES** that current public discourse around suicide has caused contagion and **REQUESTS** local media and others with a public audience to adhere to the Canadian Psychiatry Association's 2017 "Media Guidelines for Suicide Reporting" to prevent further contagion of suicide
2. Regional Council as the Board of Health **ENDORSE** the proposed framework for preventing suicides on public infrastructure
3. Within this framework, Regional Council as the Board of Health **ENDORSE** the importance of considering a barrier at the location of multiple recent deaths by suicide and **DIRECT** staff to proceed with planning for such a barrier for installation in 2019, reporting back by spring 2019 with a final recommendation, detailed cost estimates, and budget options
4. To implement this framework, Regional Council as the Board of Health **DIRECT** staff to develop and report back in spring 2019 with detailed cost-estimates and budget options for:
 - a. Suicide identification/intervention training
 - b. Suicide risk assessment capacity-building
 - c. Support for a Mental Health Hub/Clubhouse in St. Catharines
5. To implement this framework, Regional Council **DIRECT** staff to engage with the Ministry of Transportation on opportunities for provincial funding to support a possible infrastructure barrier as in recommendation #2
6. As part of this framework, Regional Council **DIRECT** staff to include consideration of barriers on any future major infrastructure projects, and to include details of their consideration in reports to Council for approval of such projects

Key Facts

- Deaths by suicides increase in the days and weeks after widespread discourse or coverage of the details of a death by suicide. This "contagion" is usually characterized by deaths from the same or similar means, and often in the same location. To prevent contagion, many specifics have been omitted from this report.

- Niagara-wide, there are approximately 44 deaths from suicide each year. Of these, an average of 3.8 deaths from suicide each year can be attributed to a fall from a height.
- Since October 2018, there have been three deaths by suicide from a single public infrastructure element in St. Catharines, as well as at least one death from an analogous infrastructure element elsewhere. The latter three deaths all occurred within days of significant public discourse of a prior death by the same means, and were likely due to contagion.
- Historically, the infrastructure implicated has not been associated with deaths from suicide, emphasizing that public discourse fueling contagion is likely responsible. It is unknown if this location may now become a “suicide magnet” longer term or not.
- Scientific research on suicide prevention in public places points to five areas of activities that should be taken in concert:
 - Restricting or deterring access to the means of suicide
 - Increasing opportunities for individuals to seek help
 - Increasing probability of human intervention
 - Redefining the public image of a place to no longer be attractive as a place to die by suicide
 - Improving integration and access of the mental health services
- Niagara Region staff and partners have escalated activity and plans in all five of these areas since October 2018 in order to reduce deaths by suicide Niagara-wide.
- Regarding the first area, barriers on infrastructure have relatively strong scientific evidence of preventing deaths by suicide from falls from a height, without a proportional increase in deaths elsewhere.
- The two infrastructure elements most strongly associated with deaths by suicide from a fall from a height are at locations other than where recent deaths have occurred, and where in discussion with the jurisdiction owner, barriers would not be feasible.
- Addition of a barrier to the infrastructure implicated recently in St. Catharines would cost upwards of \$4 million and would take until late 2019 to be completed.

Financial Considerations

The proposed framework for suicide prevention on public infrastructure identifies several opportunities for enhanced work locally. The cost of such enhancements are included the table below.

Table 1. Framework to Prevent Suicides on Public Infrastructure and Possible Budget Implications

Area of Suicide Prevention	Activities	Local Enhancement	Estimated Capital Cost	Estimated Operating Cost
Restricting & Detering Means	Barrier on public infrastructure	Barrier at location of recent suicides in St. Catharines	Approximately \$4 million	
	Lighting	Review of lighting on infrastructure	\$TBD	
Increasing Opportunities for Help Seeking	Signs & crisis phones	Signs		\$TBD
	Staffed sanctuary	Implement HUB model or Clubhouse model in St. Catharines	\$TBD	Contribution toward \$700,000 cost
Increasing Probability of Intervention	Surveillance cameras	NRPS surveillance pilot	\$TBD	
	Increased patrols	Increase in patrols		\$TBD
	Suicide awareness & intervention training	ASIST & safeTALK training		\$300,000 over 2 years (1.5 FTE)
Redefining the Public Image	Media Portrayal	Engagement with media Digital engagement campaign		\$TBD
	Memorials	Relocation of memorials		\$TBD
Mental Health System	Increasing suicide risk assessment	Public Health & CAMH-led capacity building		\$67,500 over 2 years (0.5 FTE)
	Integration of mental health system	LHIN System Mapping		\$500,000 implementation

Public Health could increase training for suicide awareness and intervention with 150 people who regularly interact with mental health clients as well as 500 members of the public. As well, Public Health has a plan to build capacity among health care providers for increased risk assessments. Together, this would require 2 FTEs of work over 2 years, production of supplies, reimbursement of the Niagara Distress Centre for services, and hosting a community forum at a total cost of \$367,500.

Operating a mental health HUB or Clubhouse in St. Catharines would cost approximately \$700,000. Niagara Region could support a portion of these operating

costs. Alternately, the Region could consider support through acquiring and donating a physical facility as a capital expenditure.

The LHIN is embarking on mapping the mental health system locally to identify gaps and opportunities for improvement. Niagara Region could contribute to implementation of improvements identified, particularly as they relate to current services. A possible future budget of \$500,000 to implement these has been estimated. It is not recommended that any decisions be made to fund these until possible improvements have been identified.

None of the above estimates have been included in the 2019 operating or capital budgets, and/or previously approved budgets for Regional infrastructure. The Capital Variance Project provides funding for in-year capital project adjustments, and at this time \$5.8 million in capital variance project funding is available to support priority projects, including the One District Police Facility, a number of transportation related projects and the low end estimate for the barrier on public infrastructure noted above.

Once the detailed cost estimates are determined, a report to Council with those estimates will be provided as well as recommended sources of funding. Council approval is a requirement of a Capital Variance Project draw greater than \$1 million, and any further Capital Levy Reserve funding and/or an operating budget funding would required Council approval and a budget amendment.

Analysis

Contagion & Use of Language

Suicide “contagion” is the phenomenon where susceptible persons are influenced towards suicidal behaviour and certain suicide methods by learning of another’s suicide. This scientific finding has been validated many times: public discourse of a death, be it on social media, public fora, political debate, or traditional media can lead to an increase in deaths in the days and weeks after.¹ Additional suicides are most likely when there is/are

- greater volume or profile of discourse (e.g. front page coverage),
- descriptions that are specific and graphic (including the means of death and/or the location of death),
- descriptions of the victim in relatable terms,
- coverage of sympathy and concern towards the victim after the death, and
- ascribing simple or singular reasons for the death (e.g. was caused by bullying)

¹ Niederkrotenthaler T, Herberth A, Sonneck G. The "Werther-effect": legend or reality? *Neuropsychiatr.* 2007;21(4):284-90.

- language that implies action, control, or solution (e.g. “committed”, “successful” or “failed” attempt, “took their life”, prominent use of “suicide”)
- portrayal as achieving a result (e.g. relieving of pain/suffering; leading to peace or a “better place”; going to “heaven”; the act was quick, easy, and/or painless)

Research shows that when language and reporting avoids the above, contagion can be minimized (elimination of contagion requires there be no reporting).² As well, coverage that focuses on the opposite (e.g. other people who have overcome mental illness), it can lead to the opposite of contagion—a reduction in deaths by suicide in the days and weeks after.

In order to prevent this report, quotes taken therein, debate at Committee/Council, or subsequent coverage from contributing to contagion, language used in this report will sometimes be indirect and avoid specifics.

Statistics in Niagara

Statistics Canada’s Vital Statistics database is the established standard for examining causes of death. The most recent data release showed that in the 5 year period of 2008 to 2012, there were 222 deaths by suicide (average 44.4 deaths per year). Of these, on average,

- 18.2 deaths resulting from suspension from a cable,
- 9.8 deaths from a drug overdose,
- 3.8 deaths from a fall from a height,
- 3.2 deaths from chemical overdose,
- 3.0 deaths from firearms, and
- 1.8 deaths from sharp or blunt objects.

Examination of calls received by Emergency Medical Services data from 2016 to September of 2018 shows that call volumes related to suicide attempts and self-harm were stable from 2006 to 2015 (between 550 and 600 calls per year). There was an increase in calls thereafter with closer to 800 calls per year in 2016 to 2018. Part of this increase may be attributable to revised dispatch protocols during this time. It is unknown if more severe impacts from opioid use may be a contributor to this increase.

² Mark Sinyor, Ayal Schaffer, Yasunori Nishikawa, Donald A. Redelmeier, Thomas Niederkrotenthaler, Jitender Sareen, Anthony J. Levitt, Alex Kiss and Jane Pirkis. *CMAJ* July 30, 2018 190 (30) E900-E907; DOI: <https://doi.org/10.1503/cmaj.170698>

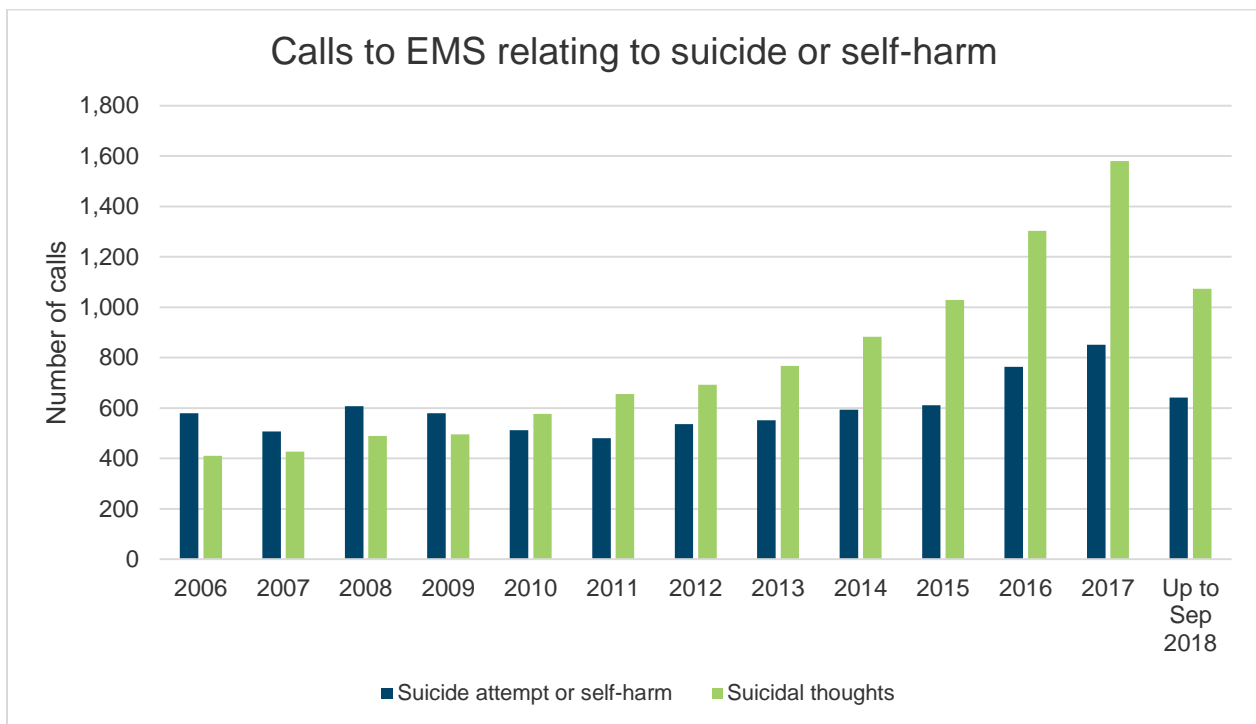


Figure 1 Calls to EMS relating to suicide or self-harm (2006 to September 2018)

Recent Events

In the three months since October 2018, there have been three deaths by suicide on an element of public infrastructure in St. Catharines, in addition to one reported attempt. As well, there has been at least 1 death at a similar infrastructure element elsewhere. Given the expected 3.8 deaths Niagara-wide per year from a fall from a height, 3 deaths in 3 months is unexpectedly high.

Under section 10 of the *Coroner's Act*, the Ontario Coroner's Office investigates every suspected death by suicide, and so has the most comprehensive and reliable data set. The coroner reported to us that they did not identify any deaths by suicide at this infrastructure between 2006 and 2017 (because the Coroner does not geocode investigations, their database query for deaths at this location was based on searching for place names, which is less accurate than geographical coordinates).

Data from Emergency Medical Services does not show any incident responses coded consistent with a death by or attempt of suicide at this infrastructure between 2010 and 2017 (EMS data is coded based on the 911 call, so if a response was not attributed to suicide or suicide attempt on the call, it would be missed by this database).

The lack of history of deaths by suicide at this location makes these recent deaths unusual. These deaths and the attempt all received significant discussion in the media, on-line, in political councils, and in public memorialization. This created significant risk of contagion. Indeed, all three of the later deaths occurred within 10 days of significant media coverage and public discourse of the earlier suicides, the highest risk period. The

reported attempt occurred within 18 days of such coverage. All of these are therefore likely attributable to a cycle of contagion, explaining the deviation from the historical norm.

In discussion with suicide experts, the three-month history is not enough to have confidence whether if this location will continue to have contagion-fuelled deaths by suicide, or if the cycle of contagion could end. However, there is certainly risk of the former.

Framework for Preventing Deaths by Suicide

Public Health England, the United Kingdom's scientific expert body on public health matters, published a guideline in November 2015 on preventing suicides in public places³. The guideline was based on a review of the scientific evidence, existing international guidelines, published and unpublished reports and policy documents, consultation with local governments worldwide, and interviews with survivors. The resulting guideline was pilot tested in local jurisdictions as well for revision prior to being published.

The guideline prioritizes action at the most frequently used places by individuals who die by suicide. A framework for prevention is outlined involving action in four areas of focus:

- Restricting and deterring individuals from the means of dying by suicide
- Increasing the opportunities for those in a public place who are contemplating dying by suicide to seek help
- Increasing the probability that persons can intervene with those intending to die by suicide in a public place
- Redefining the image of a public place where individuals die by suicide into one less attractive for this purpose

As suicide is complex, measures from multiple areas should be undertaken, ideally from all four, in order to be effective.

In addition, given the important role of the health care sector in diagnosing and treating mental illness before it progresses to suicidality, a fifth area of focus relating to this sector has been added to the framework

Below, the five areas are applied to publicly-accessible infrastructure in Niagara where deaths may occur from a fall from a height.

³ Dr Christabel Owens, Rebecca Hardwick, Nigel Charles and Dr Graham Watkinson at the University of Exeter Medical School. *Preventing suicides in public places: A practice resource*. 2015.

Restricting/Deterring the Means

Restricting/deterring the means has been identified as one of the most scientifically-supported measures for suicide prevention⁴. When dealing with deaths on public infrastructure that occur from a fall from a height, the major means restriction is a barrier or netting. Additional deterrents would include lighting.

Research consistently shows that barriers (henceforth assumed to include netting) are effective at preventing deaths by suicide from falls on infrastructure, and that the majority of these deaths do not simply redistribute to other locations, but are completely prevented.⁵⁶

The Ontario Coroner's Office was asked to identify the locations where deaths from suicide from a fall from a height are most common, and therefore where a barrier would be most impactful. The Coroner identified two locations (NF-1 and NF-2/NF-3 in Table 2). In addition, data was requested for the location of recent interest (StC-1). EMS responses for suicide and suicide attempts consistent with a fall from a height were also collected.

To supplement this, EMS data on responses to suicidal ideation by threatening to fall from a height was also reviewed. Data was limited to infrastructure widely used by the public (e.g. private residences, industrial buildings were excluded). Suicidal ideation rarely proceeds to death. Often it spurs individuals to treatment; other times it can be help-seeking for someone struggling to navigate the health care system. Nonetheless, suicidal ideation may highlight locations that are generally attractive for a suicide attempt.

A total of 44 locations had a suicide death, suicide attempt, or suicidal ideation associated with falling from a height from public infrastructure (Table 2).

As previously noted, location StC-1 has rarely seen deaths by suicide prior to 2018. Reviewing the EMS responses to suicidal ideation, however, StC-1 does seem to be the location with the most suicidal ideation, followed by NF-1 and NF-2.

It should be noted that after averaging less than 2 incidents per year at StC-1, in 2018 there have been 7 incidents up to December 14. This is likely due to contagion again.

With the history of the most deaths by suicides historically, NF-1 and NF-2/NF-3 are the best candidates for a barrier. Staff have informally engaged the jurisdiction owners for that infrastructure, however, barriers in those locations are deemed by them not to be feasible.

⁴ Jane Pirkis, Matthew J Spittal, Georgina Cox, Jo Robinson, Yee Tak Derek Cheung, and David Studdert. The effectiveness of structural interventions at suicide hotspots: a meta-analysis. *International Journal of Epidemiology* 2013;42:541–548. doi:10.1093/ije/dyt021

⁵ Pirkis et al. 2013.

⁶ Sinyor M, Schaffer A, Redelmeier DA, et al. Did the suicide barrier work after all? Revisiting the Bloor Viaduct natural experiment and its impact on suicide rates in Toronto. *BMJ Open* 2017;7:e015299. doi:10.1136/bmjopen-2016-015299

StC-1 has the most frequent suicidal ideation implying some greater potential for deaths from suicide to occur here, though only a 3 month history of frequent deaths.

The Region retained the original designer of the structure in St. Catharines to develop a barrier design that would be structurally and esthetically compatible. This work is ongoing. The order of magnitude cost estimate for a barrier along all exposed edges of the structure is \$4 million based on conceptual design and market intelligence. The design work continues, along with the refinement of the cost estimate and will be subject to a subsequent report to Council.

Given that, after consulting with suicide experts, there is uncertainty whether deaths from suicide due to ongoing contagion can be expected to continue at this location. There is therefore also uncertainty whether a barrier would be the best mental health intervention and the best use of taxpayer dollars, since there is a possibility that contagion will dissipate and deaths will stop occurring as was the case prior to 2018. However, if a barrier is not built but contagion does not dissipate, preventable deaths will continue.

To balance these imperatives, and given that a barrier cannot be erected until late 2019 at the earliest, it is recommended that planning for a barrier to be erected in late 2019 continue as a contingency. In the next several months, other suicide prevention efforts will continue. Based on the pattern of any further deaths over those months, a final recommendation on whether to build a barrier will be brought to Council in spring 2019.

The other means deterrent to suicide, lighting, does not appear to be a concern at StC-1 or NF-1 and NF-2/NF-3. Review of lighting in other locations can be pursued as part of the larger framework.

Table 2. Suicide deaths, attempts, and ideation associated with falls from a height from public infrastructure

Infrastructure Element	Deaths & Attempts (2010-2017)		Deaths & Attempts (2018)		Suicidal Ideation (EMS Responses)	
	Coroner (To Nov. 20)	EMS Calls	Coroner (To Nov. 20)	EMS Calls	2006–2017	2018 (To Dec.14)
NF-1	11	1	1		16	2
NF-2	10		0		7	
NF-3		1			2	
NF-4					3	1
NF-5				1	3	
NF-6		1			2	
NF-7					2	
NF-8					3	
NF-9						2
NF-10					1	
NF-11					1	
StC-1	0		3*	1	22	7
StC-2					1	
StC-3		1			4	
StC-4				1		1
StC-5					1	1
StC-6		1				1
StC-7					1	
StC-8		1			2	
StC-9		1				
StC-10					1	
StC-11		1			3	1
StC-12		1			2	4
StC-13		1			5	1
StC-14		1			1	
StC-15					2	
StC-16		1				
StC-17					1	
StC-18						1
Thorold-1					1	
Thorold-2		1				
Thorold-3						1
Thorold-4					1	
Thorold-5					1	3
Welland-1					4	1
Welland-2					2	
Welland-3					1	
Welland-4					1	
Welland-5					1	
Grimsby-1					1	
Grimsby-2					1	
Fort Erie-1					2	
NOTL-1					1	
PC-1						1

Increasing Opportunity for Help Seeking

Encouragement to seek help, even subtle ones, are often enough to help suicidal persons break from their plan. Research has shown this to be effective, though less so than means restrictions.⁷

Installing signs of where to seek help is one significant measure. In response to the deaths by suicide in October, signs were immediately put up in the area with the number to call the Niagara Distress Centre.

Crisis phones and automated messages are additional measures that have been effective in other jurisdictions.

One other opportunity for help seeking exists when there is a staffed “sanctuary” nearby to which individuals experiencing a crisis can attend. In downtown Welland, the Oak Centre has been developed according to the internationally-recognized Clubhouse Model. This model is predicated on those with mental illness helping each other, and then supplementing that with professional services to help clients build mental health and social integration skills. The International Centre for Clubhouse Development has found that admission to hospital, and hospital stays for clients are significantly reduced if someone is a Clubhouse member. Given the success of the model in Welland, there is interest by many in St. Catharines to develop a Clubhouse in this city as well. The Oak Centre is largely funded through the local LHIN and has a total budget of around \$700,000.

Another model that is being discussed locally are regional mental health HUBs. HUBs of this nature accept individuals in crisis, who would normally be taken to an emergency department. Instead, in a HUB, with no competing patients needing to see a caregiver, people with acute mental health or addictions issues can get immediate help, in a setting tailored with services they need, while simultaneously relieving pressure on overcrowded emergency departments. HUBs also engage with the community and other groups to raise awareness, build the community’s skills to foster social inclusion and mental wellness, and facilitate community-led responses to mental health issues.

The Suicide Prevention Coalition has recommended a HUB for St. Catharines as a top priority.

Increasing Probability of Persons to Intervene

Human interaction is very effective at deterring a person from dying by suicide. Where a location is having frequent deaths by suicide, human interaction can be increased by having additional patrols by emergency workers, as well as surveillance (e.g. by cameras) to trigger an intervention. The Niagara Regional Police Service (NRPS) has a raised level of awareness by front line patrol officers with respect to persons in crisis or experiencing suicidal thoughts, and has increased patrols in affected areas. The NRPS is piloting the use of closed circuit television (CCTV) to enhance its ability to respond to

⁷ Jane Pirkis, Lay San Too, Matthew J Spittal, Karolina Kryszynska, Jo Robinson, Yee Tak Derek Cheung. Interventions to reduce suicides at suicide hotspots: a systematic review and meta-analysis. *Lancet Psychiatry* 2015; 2: 994–1001

calls for service, including suicidal persons and persons in crisis in parts of St. Catharines where there have been recent deaths.

Research shows that there is no significant difference to interaction by a member of the public versus an emergency worker. However, given their greater numbers, it is usually more likely someone contemplating suicide will interact with a member of the public, rather than an emergency worker. However, people often lack the confidence to intervene, or the skill to recognize suicidal behaviour. Applied Suicide Intervention Skills Training (ASIST) is an internationally-recognized program for helping people gain the skills to recognize someone at risk of suicide, and to know how to intervene to support a suicidal person. A condensed version of this training is known as safeTALK.

Currently Public Health has staff who provide safeTALK in certain settings. As well, through the Niagara Distress Centre, Public Health has access to ASIST trainers. Public Health proposes to increase ASIST (targeting 150 of those working with mental health clients) and safeTALK training (targeting 500 members of the general public).

The Suicide Prevention Coalition currently ranks suicide identification/intervention training as one of its two key areas of focus.

Redefining the Public Image

The most important measure to decrease deaths by suicide in a public place is to end discourse that associates that location with suicide. This sentiment is reflected in how this report is written. Recognizing the disproportionate role the media play in spreading information, a half-day session was held with all local media outlets on November 16, 2018 to discuss the current public discourse and ways to shift it to better align with the Canadian Psychiatry Association's 2017 "Media Guidelines for Suicide Reporting". Public Health Communications along with Strategic Communications and the media are continuing to work on measures resulting from that meeting. The Suicide Prevention Coalition currently ranks shaping media report as its second key area of focus.

Mental health experts highlight that memorials and floral tributes after a death can associate a location's public image with suicide. This can lead to others dying by suicide in the same location. Experts recommended that memorials be removed "as quickly and sensitively as possible to prevent them building up, within two to three days at the most".⁸

In recognition of this, the memorials at the location where several recent deaths by suicide have occurred were removed in early December 2018 to reduce the risk of additional deaths by suicide. This, unfortunately, occurred much later than the "two or three days" recommended by experts. Attempts were made to remove the memorial at earlier dates. However, given public outpouring and attention prior attempts were aborted when it became clear their removal would generate controversy and more discussion of the location in association with suicide, exactly what would cause additional contagion. Going forward, staff hope to be able to adhere to the 2–3 day

⁸ PHE

expert recommendation if there are any additional unfortunate deaths. As well, a permanent memorial site is being made available by Public Health at the Glenridge Naturalization Area where another memorial already exists for mental health clients who have died by suicide.

One other means of redefining the public image of a location associated with suicide is to redecorate or landscape in order to change the location's feel to be more hopeful, and to less visible sections where one may die by suicide in relative privacy. Staff plan to be mindful of opportunities to undertake such changes, though it is not anticipated that this will be a significant activity.

Improving Supports in the Mental Health System

As the mental health sector has the greatest contact with those at risk of suicide, particularly those with the greatest risk and most severe illness, deaths from suicide may be preventable through better support for these patients.

Niagara Region Mental Health has developed a Suicide Risk Assessment Strategy to strengthen health service providers' abilities to identify those at risk of suicide so that they can receive needed care earlier in their course of illness. This strategy will be delivered over the next several years, though it could be accelerated with additional investment.

The LHIN is also considering engaging a consultant to map the mental health system to address difficulties in navigating the system, to identify gaps in service, and to enable its many parts to work as a more cohesive whole. As Niagara Region serves mental health clients, there may be opportunities to implement recommendations from this exercise here. However, given that our mental health program is generally not supported through municipal levy funding, it would be a variation from past practice to do so. Until concrete proposals for change are available, staff do not recommend investing in this.

Alternatives Reviewed

As suicide affects all of Niagara and many means beyond falls from a height, the report has examined suicide holistically and Niagara-wide, rather than focused only on the location of recent interest.

Staff recommend a comprehensive approach to suicide prevention, rather than focusing on a single measure, as multi-factorial action has been shown in research to be most effective.

Recommending a barrier on the recent location of interest could have been proposed, but this was deemed to be premature given the lack of certainty that contagion will continue. However, recommending against a barrier would be imprudent given the risk that deaths by suicide might continue. The recommendation to continue working towards a barrier but deferring a final decision preserves the same opportunity to prevent suicide deaths, while also being fiscally prudent.

