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Preventing Suicide in Youth: Taking Action With Imperfect Knowledge

A Research Report Prepared for the British Columbia Ministry of Children and Family Development

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PREFACE

This report is one in a series of research reports being prepared by the Children's Mental Health Policy Research Program at the University of British Columbia at the request of British Columbia's (BC's) Ministry of Children and Family Development (MCFD). To support MCFD's goal to improve children's mental health in BC, in 2002-2003 we produced four reports: on population health and clinical service considerations;[1] on practice parameters for treating attentiondeficit/hyperactivity disorder, conduct disorder, depression, obsessive-compulsive disorder and schizophrenia;[2] on child psychiatric epidemiology;[3] and on performance monitoring.[4] In 2003, MCFD then announced a new *Child and Youth Mental Health Plan* (the *Plan*)[5] to better address the needs of children and families in BC.

The research reports prepared by Children's Mental Health Policy Research Program will support MCFD's *Plan* by identifying the most effective prevention and treatment approaches for a variety of children's mental health problems. This report focuses on preventing suicide in youth. Other reports have focused on conduct disorder,[6] anxiety disorders,[7] depression,[8] First Nations children[9] and early psychosis.[10] Future reports will focus on eating disorders, concurrent disorders and service models.

Our reports are intended to be a resource for policy-makers, practitioners, researchers, families, teachers and community members working with children in BC. We recognize that research evidence is only one component of good policy and practice. This report addresses only the content, or the specific factors, in preventing suicide in youth. Applying this content in policy and practice requires integration of the research evidence together with individual clinical experience, and child and family preferences. Our goal, nevertheless, is to facilitate evidence-based policy and practice by making summaries of the best research evidence available to everyone concerned with improving children's mental health in BC.

EXECUTIVE SUMMARY

In British Columbia (BC), 25 youth aged 15-19 years killed themselves in 2003, a rate of 8.9 per 100,000.[11] Suicide continues to be the second leading cause of death among youth aged 15-24 years in BC.[12] Suicide attempts and suicidal thoughts are common among this age group and add to the seriousness of the problem. This paper outlines key strategies for preventing youth suicide in BC. Comprehensive strategies at the local level capitalize on the existing resources and strengths of the community and are considered the most promising. Four general "categories of action" implemented across an array of prevention settings (families, schools and communities) can direct our activities in youth suicide prevention: promote competencies and capacities, reduce risks, improve early detection and minimize contagion. Youth mental health practitioners and policy-makers can play a pivotal role in initiating and sustaining youth suicide prevention approaches that are empirically supported and culturally sensitive.

Risk factors for youth suicide include: (1) mood disorders, substance use disorders, conduct disorder and concurrent disorders; (2) previous history of suicidal behaviour; (3) family history of suicide or physical abuse; (4) current life stressors; (5) exposure to sensationalized media reports of others' suicidal behaviour; and (6) access to lethal means for suicide. Protective factors against suicide are less well established but are thought to include: (1) individual coping and problem-solving skills; (2) strong family support and involvement; (3) interpersonal competence; (4) positive school climate; and (5) strong community and cultural ties. Protective factors for First Nations youth include living in communities that have high levels of "cultural continuity" as defined by involvement in land claims actions, a recognized level of self-government, involvement in cultural activities, and control over education, police/fire and health services.

Findings

For this review, research was systematically identified and assessed. Twenty-four articles met criteria for relevance and methodological rigour. Empirical support is strongest for targeted interventions for high-risk youth. Recently published studies are providing renewed support for school-based peer recognition and response training. Youth skill-building, and family and group interventions for youth at potential risk also show considerable promise. Other approaches that are based on limited research findings but strong theoretical justification are also worth pursuing. These include: (1) family support and skill development; (2) parent education about suicide; (3) means restriction education for parents of highrisk youth; (4) school in–service training; (5) community gatekeeper training; (6) education for health practitioners; (7) media education; and (8) post-suicide response protocols. Local control, cultural renewal and healing are crucial for reducing suicide risk among Aboriginal youth.

Taking Action

1. Focus on what is modifiable, justifiable and responsive to local needs.
   - Start by addressing those risk and protective factors that are more easily modified, including promoting youth competencies, improving gatekeepers' and health practitioners' skills and knowledge to detect risk and to intervene, enhancing social support among high risk youth, restricting access to lethal means and reducing sensational media reports.
   - In the absence of empirical certainty, we must support local parents, practitioners and teachers to act in a way that is ethically responsible, theoretically sound and justifiable in the particular situation.

2. Strengthen the partnership between youth mental health services and schools.
   - Youth mental health practitioners and their local partners can play an important role in promoting safe and effective school-based approaches to youth suicide prevention by becoming familiar with the latest evidence regarding school-based programs and by developing active relationships with schools.

3. Develop supportive policies and promote collaborative action.
   - A high-level organizational commitment to prevention approaches across youth serving agencies is required.
   - Some of the most important ingredients for building successful prevention coalitions include focusing on specific tasks, increasing members' skills, developing links with other organizations, increasing broad-based multiple-sector involvement and fostering collaborative interactions over time.

Conclusion

This report has outlined several key components in an overall approach to preventing youth suicide within BC. Comprehensive strategies undertaken at the local level that capitalize on the existing resources and strengths of the community are considered the most promising. Four general "categories of action" should direct our activities in youth suicide prevention: (1) promote competencies and capacities; (2) reduce risks; (3) improve early detection; and (4) minimize contagion. These actions should be implemented across an array of prevention settings including families, schools and communities. We need to strategically combine approaches that target high-risk groups with those that are aimed at reducing risks and promoting protective factors at the population-level. We must intervene with youth and their social environments. We must work at finding novel ways to incorporate the relevant findings from other fields of inquiry. We must also maintain an ongoing commitment to evaluating our program efforts so that we can continue to refine our collective knowledge and improve our local efforts. By recognizing the complexity of youth suicide and by acknowledging its individual, familial, social, cultural and historical dimensions, youth mental health practitioners and policy-makers will be well-positioned to develop programs that blend the best of the empirical findings with other forms of knowledge, including theory, practitioner knowledge and local wisdom.

1 INTRODUCTION

With many young lives lost each year as a result of self-inflicted intentional deaths, suicide and suicidal behaviour among youth has become a disconcerting and painful reality in contemporary society. Each youth death by suicide causes immeasurable suffering to families, friends, practitioners and communities, leaving many unanswered questions for survivors.

While it is unrealistic to think that we can prevent *all* suicides among youth, it is reasonable to suggest that many suicides could be prevented. To reduce current suicide rates and suicidal behaviour among youth (defined as ages 15 through 19 years), a coordinated community-based effort is required that includes parents, community agencies, youth mental health practitioners, school personnel, researchers, local leaders and governments. The purpose of this report is to provide provincial and regional policymakers, youth mental health practitioners and their local partners with a current summary of the most promising practices in the prevention of youth suicide and suicidal behaviour. This document is focused on prevention and early intervention strategies. For a review of treatment approaches for suicidal youth see *Practice principles: A guide for mental health clinicians working with suicidal youth* (available at www.mcf.gov.bc.ca/mental_health/publications.htm).

In most industrialized nations including Canada, rates of suicide among youth increased dramatically during the mid-1950's to the 1980's, with most of this increase accounted for by suicides among males.[13-15] In 1997, 261 Canadian youths aged 15 to 19 years killed themselves, for a rate of 12.9 per 100,000.[16] Closer to home, 25 youth aged 15-19 years killed themselves in British Columbia (BC) in 2003, a rate of 8.9 per 100,000.[11] Rates of suicide among First Nations youth are estimated to be five to six times higher than non-Aboriginal youth,[17] although variations in suicide rates across First Nations communities are common and many have low or non-existent rates of youth suicide.[18] Suicides among youth in Canada are estimated to account for thousands of years of potential life lost each year.[15]

Even though suicide deaths may be infrequent in terms of absolute numbers, suicide continues to be the second leading cause of death among youth aged 15 to 24 years in BC.[12] In fact, suicides accounted for 16% of all youth deaths in BC among those aged 13 to 21 years in the year 2000.[19] Suicide attempts and suicidal thoughts are common among this age group and add to the seriousness of the problem. Canadian data suggest that the incidence of suicide attempts among adolescents may exceed 10% annually.[20] A recent BC survey indicated that seven per cent of youth (grades seven to 12) reported making a suicide attempt in the previous year, 11% said that they had planned a suicide and 16% reported seriously thinking about it in the previous year.[21]

1.1 Understanding Suicide

The reasons why a youth may commit suicide are complex. Programs developed to prevent suicide among youth should ideally be based on current knowledge about risk and protective factors. The risk factors for youth suicide include: (1) mood disorders, substance use disorders, conduct disorder and concurrent disorders; (2) previous history of suicidal behaviour; (3) family history of suicide or physical abuse; (4) current life stressors; (5) exposure to sensationalized media reports of others' suicidal behaviour; and (6) access to the lethal means for suicide.[22] Demographic risk factors for suicide include being an older youth (suicides prior to puberty are rare) and being male.[23] Recent research also points to the role of certain neurobiological factors (i.e., serotonin regulation systems) in the emergence of suicidal behaviour.[23] An understanding of suicide among First Nations youth must also recognize the damaging consequences of historical and political practices such as government-sponsored policies of assimilation and residential schooling.[9,17] The negative effects of colonization on First Nations communities have been well-documented and include multi-generational losses, family breakdown, loss of community, poverty, and extreme cultural disruption, all of which can contribute to a heightened risk for suicide.[15] The accumulation of multiple risks heightens a young person's vulnerability.[24]

Protective factors that buffer against suicide are less well established but are thought to include: (1) individual coping and problem-solving skills; (2) strong family support and involvement; (3) interpersonal competence; (4) positive school climate; and (5) strong community and cultural ties.[14,24,25] Additional protective factors for First Nations youth include living in communities that have high levels of "cultural continuity" as defined by involvement in land claims actions, recognized level of self-government, control over education, police/fire, and health services and involvement in cultural activities.[18]

1.2 The Effectiveness of Suicide Prevention Programs

Clearly, risk and protective factors for youth suicide include multiple domains—family, peers, school and community. Well-designed prevention programs need to reflect this complexity.[26,27] Furthermore, most prevention programs are designed to modify risks and social conditions that contribute to risk prior to the emergence of symptoms. Universal prevention interventions are aimed at populations, while targeted interventions focus on those who are considered high-risk. In essence, by reducing early risk factors and by enhancing protective factors, prevention programs can disrupt the complex pathways that may lead to future suicidal behaviour among youth.

On the surface, preventing youth suicide appears straightforward: identify the risk and protective factors, develop a program that addresses these factors, implement the program and evaluate the results. The reality is more complex. First, knowledge about risk factors is limited by what researchers determine to be worthy of, and amenable to, investigation. Typically this has meant examining those things that can be quantified, such as personality traits, demographic characteristics, symptoms of psychopathology, exposure to stressful events, family functioning levels and school achievement. Inevitably, researchers studying suicide have a perspective defined by their disciplines which can only ever provide a "partial view" of the problem. Second, in order to be effective, prevention programs must be comprehensive and implemented across multiple domains, including family, school and community, as well as multiple sectors.[28,29] This is often difficult in a service delivery context marked by budget constraints, increased demands for accountability, time shortages, and interdisciplinary and inter-sectoral tensions.[30] Third, positive program effects may not be seen for many years and given the complexities of risks and causes, it is difficult to attribute any changes in the suicide rate to a specific preventive intervention. There are also ethical challenges in conducting suicide prevention studies.

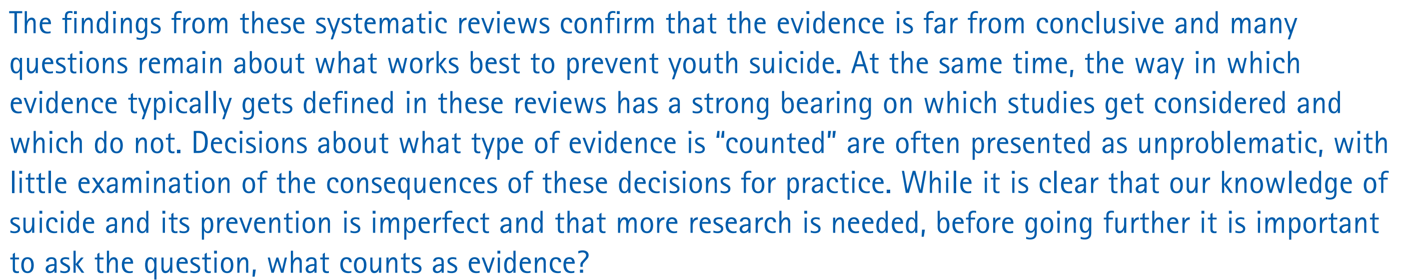
In light of these challenges it is not always possible to design and execute scientifically rigorous studies such as randomized controlled trials (RCTs), which are considered the gold standard for judging suicide prevention programs and services. As a result, the evidence regarding the prevention of suicide is not only scarce, but often lacks methodological rigor, leading most reviewers to conclude that there is insufficient evidence regarding "what works best" to prevent youth suicide.[14,31,32] Nonetheless, findings from recent reviews and critical appraisals of the evidence are valuable and represent an important place from which to begin this report.

1.3 Previous Reviews

Four systematic reviews of the international evidence were identified. Ploeg and colleagues reviewed school-based youth suicide prevention programs, including curriculum-based, suicide-awareness and post-suicide response programs designed to promote healing and reduce the risks of imitative suicidal behaviour following a suicide death.[32] They identified 11 programs that met the following criteria: (1) interventions were evaluated; (2) studies provided information on client outcomes and/or costs; (3) studies were a prospective design; and (4) studies had a control group (included before/after designs). These studies were published between 1980 and 1996. Eight of the 11 studies were conducted in the US, two in Israel and one in Australia. All studies were judged as strong, moderate or weak and based on the findings of this review, Ploeg and colleagues concluded that there was insufficient evidence to support curriculum-based suicide prevention programs for adolescents.[32]

In a more recent review, Guo and Harstall identified 10 studies published between 1991 and 2002 that met their inclusion criteria.[31] They also restricted their attention to school-based suicide prevention programs for youth and included studies published in the US, Israel and Australia. Using the same appraisal tool as Ploeg and colleagues,[32] Guo and Harstall characterized two of the 10 studies as having a strong methodology, four as moderate and four as weak. Based on their review of the evidence, Guo and Harstall concluded that there was insufficient evidence to assess curriculum-based suicide prevention programs in schools.[31] Six of these studies were also included in Ploeg and colleagues' review.[32] In another review of the research literature on youth suicide, Gould and colleagues conceded that many strategies currently used to prevent youth suicide were not well supported by the evidence.[14] However, according to these authors some approaches did appear more promising than others. These included: school-based skills training for students, screening for high-risk youth, education of primary care physicians, media education and the restriction of lethal means. They noted that all these strategies required further evaluation before their effectiveness could be firmly established.[14]

Finally, following a comprehensive review of the suicide prevention and mental health promotion literature that focused on First Nations and Inuit communities in Canada, Kirmayer and colleagues suggested that "a community-based approach to prevention is essential" (p. 9).[33] While acknowledging that the research evidence for recommending one approach over another was preliminary, these authors were able to identify nine key elements that should be included in any primary prevention approach to reducing suicide in Aboriginal communities. These elements included: (1) training youth to serve as peer helpers; (2) developing a school curriculum with mental health and cultural heritage components; (3) implementing recreational and sports programs; (4) hosting workshops on life skills, problem-solving and communication; (5) presenting parenting skills workshops; (6) offering support groups for high-risk individuals and families; (7) providing cultural programs for the community at large; (8) collaborating between community workers in health, social services and education; and (9) implementing training in mental health promotion for lay and professional helpers.[33]



The findings from these systematic reviews confirm that the evidence is far from conclusive and many questions remain about what works best to prevent youth suicide. At the same time, the way in which evidence typically gets defined in these reviews has a strong bearing on which studies get considered and which do not. Decisions about what type of evidence is "counted" are often presented as unproblematic, with little examination of the consequences of these decisions for practice. While it is clear that our knowledge of suicide and its prevention is imperfect and that more research is needed, before going further it is important to ask the question, what counts as evidence?

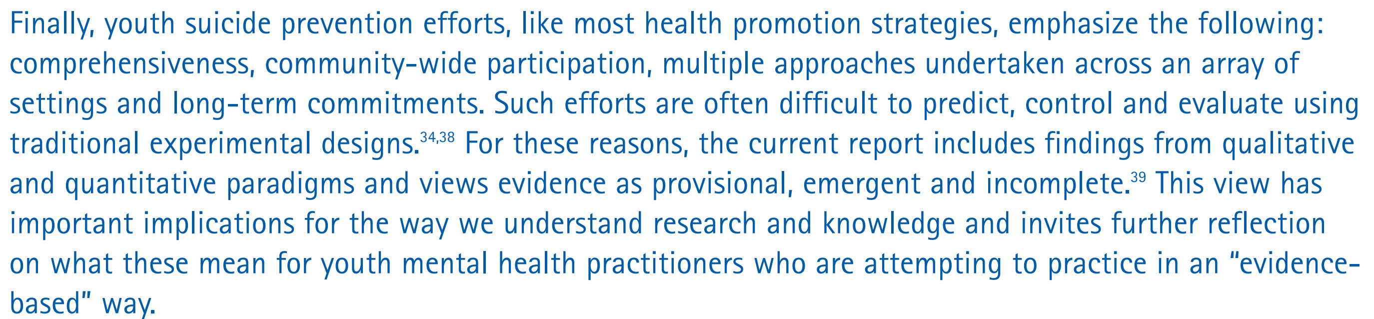
1.4 What Counts as Evidence?

High levels of uncertainty exist regarding the effectiveness of many public health interventions, including programs designed to prevent youth suicide. This could mean either that the interventions are inadequate or that the measures are ill suited to detect meaningful change.[34] Some targeted prevention approaches, like interventions for high-risk youth, may be easier to evaluate using controlled experimental designs since the focus is on individual high-risk youth. On the other hand, universal prevention programs that promote the well-being of populations or strengthen social environments are often more difficult to evaluate because of their "complex, programmatic and context dependent" character.[34] Such prevention efforts often have more in common with community development than health sciences.[35] Recognizing this, researchers have begun to ask if standard evaluative criteria, designed to appraise the evidence in clinical practice (i.e., treatment of individuals) can capture the complexity of communitybased, culturally relevant public health interventions.[34]

Clearly the prevention of suicide, like the promotion of health in general, is inextricably linked with broader ethical and political issues like social justice, equity and community self-determination.[36] The prevention of suicide is also deeply tied to personal values and culturally specific practices, including faith, compassion, love, friendship and an understanding of what it means to live a life that matters. These are issues and concerns that typically fall outside the bounds of traditional scientific investigations. Once we recognize that suicide is not exclusively a "scientific problem" we will be in a much better position to recognize its moral, political and cultural dimensions and develop prevention approaches that reflect this complexity.

As an example of this complexity, consider indigenous healing practices that cannot be easily understood through a traditional scientific approach. Specifically, the wisdom of elders, the practice of ceremonies and the incorporation of spiritual teachings all have an important role to play in the prevention of suicide among First Nations youth.[17] Even though these local and culturally specific practices are not particularly amenable to scientific investigation, they can be better understood by placing value on other ways of knowing, including the wisdom that comes from lived experience, narrative accounts and local knowledge. Making a compelling case for the existence of indigenous knowledge that has relevance for the prevention of youth suicide, Chandler and Lalonde wrote:

> Clearly contained in the finding that more than half of BC's aboriginal communities have not suffered a single youth suicide in the last 15 years (a suicide rate remarkably lower than that of the general population) is, for example, the evident fact that real knowledge about how to address this problem is already well sedimented within these aboriginal communities themselves (in press).[37]



Finally, youth suicide prevention efforts, like most health promotion strategies, emphasize the following: comprehensiveness, community-wide participation, multiple approaches undertaken across an array of settings and long-term commitments. Such efforts are often difficult to predict, control and evaluate using traditional experimental designs.[34,38] For these reasons, the current report includes findings from qualitative and quantitative paradigms and views evidence as provisional, emergent and incomplete.[39] This view has important implications for the way we understand research and knowledge and invites further reflection on what these mean for youth mental health practitioners who are attempting to practice in an "evidence-based" way.

1.5 Re-Thinking Evidence and Practice

Contemporary observers of evidence-based practice as a "public idea" have come to appreciate the nuanced assumptions that underlie what appears to be a straightforward, unproblematic notion—that by bringing their practices more in-line with formal, scientific "evidence-based" findings youth mental health practitioners will be better able to serve people.[40] A closer look at this concept reveals that "evidencebased practice" is mainly concerned with the way front-line practitioners behave in response to the knowledge they *receive*. As such, evidence-based practice "…begins with research and ends with practice, a mostly unidirectional movement from a set of knowers to a set of doers" (p. 298).[40]

Yet, mental health practice involves much more than receiving knowledge from others (such as researchers). Individual knowledge, personal experience, attitudes, and moral and political commitments all exist within a larger social context marked by various ideological and institutional imperatives.[41] In the quest to promote more effective practices in the field of mental health in general, and youth suicide prevention in particular, there must be a willingness to go beyond simplistic understandings of practice exemplified in phrases like "knowledge transfer" or "uptake of evidence," to embrace more relevant and dynamic views of practice.

To start, we need to recognize that mental health researchers and practitioners each require different types of knowledge to support their decision-making.[42] We need to appreciate the limits that institutions and organizations can impose on youth mental health practitioners who are attempting to engage with research.[41,43] We also need to examine both the benefits and drawbacks of applying narrow and traditional definitions of evidence in evaluating community-based preventive interventions.[34,38,44,45] Finally, we need to value the different forms of knowledge and traditions that researchers, practitioners and policy-makers each bring to the task of improving mental health outcomes for individuals, families and communities.

> In this alternative view, scientists, officials and clinicians are all, at every moment, knowers and doers both: a clinician's knowledge cannot by definition be a scientist's. Statistical studies remain a single form of evidence, one that contributes to changes in clinical practice but cannot change practice alone. Knowledge does not originate with the researcher and pass through management into practice. It is conceived differently by the three groups of knower-doers. These conceptions sometimes coincide, and then change is possible (p. 298).[40]

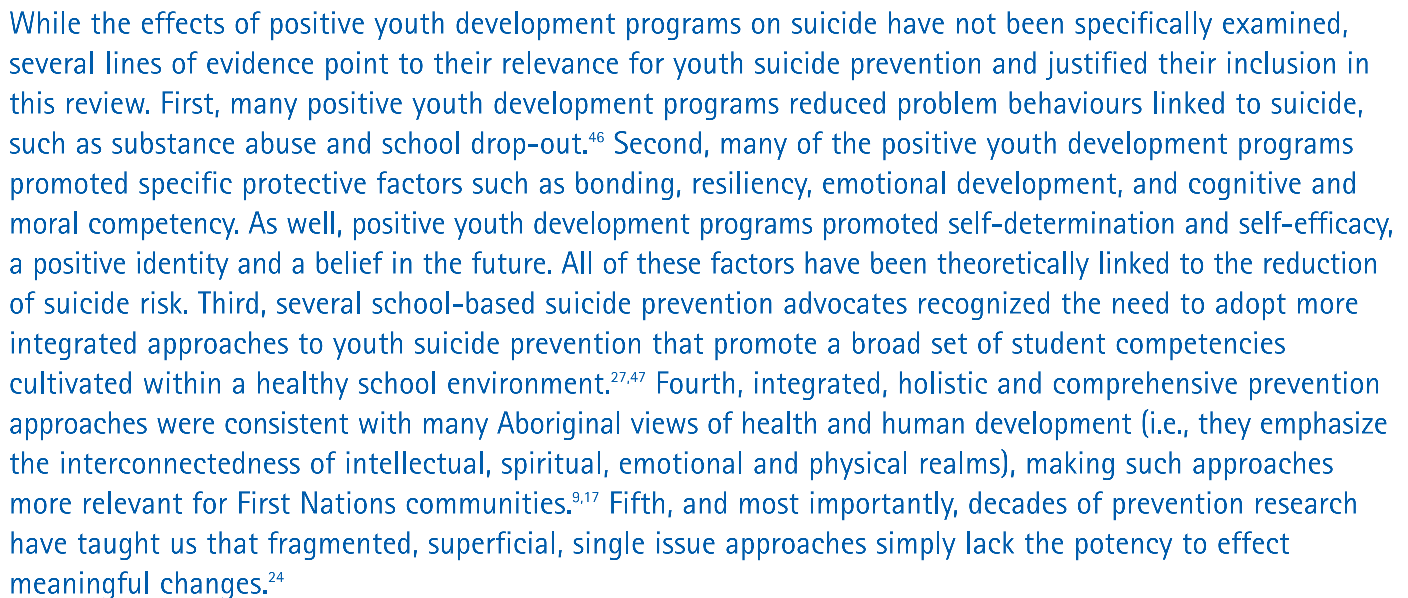
By adopting a broad view of evidence, and by reflecting a view of mental health prevention practice that is complex, dynamic and deeply rooted in context, this report is designed to provide policymakers and practitioners with relevant, up-to-date and reliable information regarding the prevention of youth suicide.

1.6 Towards More Integrated Approaches

It is important to give brief consideration to key findings from other prevention fields dedicated to the promotion of positive youth development. These findings are highly relevant to the prevention of youth suicide and build on the findings from the systematic reviews. Over the past several decades, a substantial body of evidence has highlighted the fact that many youth problem behaviours share common risk factors.[24] Furthermore, many of the same individual, family, school and community protective factors can lead to positive outcomes among youth.[26] Such findings have led prevention advocates and researchers to recommend integrated "positive youth development" programs which focus "noncategorically" on the whole youth, concentrate on the achievement of developmental tasks, and give focused attention to family, school, community and culture. Positive youth development programs typically focus on one or more of the following:

- Promote bonding
- Foster resilience
- Promote social, emotional, cognitive, behavioural and moral competence
- Foster self-determination
- Foster spirituality
- Foster self-effectiveness
- Foster clear and positive identity
- Foster belief in the future
- Recognize positive behaviour and opportunities for healthy involvement
- Foster healthy standards for behaviour (prosocial norms)

Based on a review of 77 positive youth development programs, Catalano and colleagues suggested that 25 programs were effective.[26] Many of the effective programs had several features in common that are relevant for the design of suicide prevention programs for youth. Seventeen of the 25 programs were implemented in more than one environment (i.e., family, school, community). The school was the most common environment, with 88% of programs basing at least some of their interventions in schools. These programs focused on youth in grades four through nine. Ninety-six per cent of programs used a structured curriculum and 80% were delivered over a period of nine months or more. A focus on skills development, and environmental or organizational change were common features in all programs. Furthermore, all programs addressed a minimum of five positive youth development characteristics and most addressed at least eight. Competence, self-effectiveness and prosocial norms are three positive development characteristics that were addressed in all 25 programs.



While the effects of positive youth development programs on suicide have not been specifically examined, several lines of evidence point to their relevance for youth suicide prevention and justified their inclusion in this review. First, many positive youth development programs reduced problem behaviours linked to suicide, such as substance abuse and school drop-out.[46] Second, many of the positive youth development programs promoted specific protective factors such as bonding, resiliency, emotional development, and cognitive and moral competency. As well, positive youth development programs promoted self-determination and self-efficacy, a positive identity and a belief in the future. All of these factors have been theoretically linked to the reduction of suicide risk. Third, several school-based suicide prevention advocates recognized the need to adopt more integrated approaches to youth suicide prevention that promote a broad set of student competencies cultivated within a healthy school environment.[27,47] Fourth, integrated, holistic and comprehensive prevention approaches were consistent with many Aboriginal views of health and human development (i.e., they emphasize the interconnectedness of intellectual, spiritual, emotional and physical realms), making such approaches more relevant for First Nations communities.[9,17] Fifth, and most importantly, decades of prevention research have taught us that fragmented, superficial, single issue approaches simply lack the potency to effect meaningful changes.[24]

1.7 Scope of This Report

It is important to be explicit about the deliberate intention to cast a wide net in the search for potentially effective interventions and programs. Recent evidence-based reviews with narrow inclusion criteria have already been done. Further, setting up narrow review criteria that exclude programs that do not have a suicide-specific mandate or that reject studies that do not meet the traditional criteria for methodological rigour may mean that some potentially fruitful programs are overlooked.

In the relatively new field of youth suicide prevention, where evaluation criteria for assessing prevention programs may not be as refined as those for clinical interventions, it is reasonable to expand the methodological criteria to include a greater range of potentially helpful preventive actions. By taking this broad view, we recognize the imperfection and evolving nature of our knowledge base and we recognize that youth mental health practitioners and policy-makers must take practical and responsible action even when the scientific evidence remains unclear.

For these reasons, this report gave preference to studies that used a randomized design and recognized evidence generated from other research paradigms, including program evaluation studies, ecological studies and qualitative studies. As well, by recognizing that scientifically established findings do not tell the *whole* story of why young people kill themselves we can take a broader view of the problem and appreciate the social, moral and political dimensions of suicide. Finally, by understanding that knowledge alone cannot change suicide prevention practice, we will be better equipped to recognize its complexity and effect meaningful change.

2 METHODS

A systematic approach was used to search and review the literature on the prevention of youth suicide. The practice of youth suicide prevention includes several disciplines: medicine, nursing, psychology, social work and education. To reflect the multidisciplinary character of this work, a variety of databases were searched: Medline, PsycINFO, CINAHL, Cochrane Database of Systematic Reviews, ERIC and the Suicide Information and Education Centre (SIEC). Search terms included *suicide, suicide ideation, suicidal behaviour, parasuicide, adolescents, teenagers, youth, prevention, mental health promotion, research, evaluation* and *program effectiveness.* Clinical or treatment interventions (including medications) were excluded from this review.

2.1 Inclusion Criteria

- Quantitative and qualitative research studies published in English during the last 10 years (1995 through 2004)
- Studies that were relevant to the prevention of suicide among youth aged 15 to 19 years
- Studies that met criteria for methodological quality (see Appendix A)
- Studies that examined the relationship between an intervention and the outcome of suicide or suicidal behaviour
- Studies that examined the relationship between an intervention and a more intermediate variable (e.g., gatekeeper knowledge or youth depression)
- Studies that provided a reliable empirical account of the effect of one or more population level variables (e.g., media influences or local control of services) on the outcome of suicide or suicidal behaviour
- Interventions (individual or population) that had a prevention focus including mental health promotion, universal, selective or indicated prevention efforts, and broad social practices (e.g.,community development)

2.2 Review Process

Approximately 300 articles were initially identified for potential inclusion. The author read the titles and abstracts of each of these articles and identified 29 articles that met basic criteria for both relevance and methodological quality. Each of these articles were then reviewed by the first author and a second reviewer (Orion Garland) to establish whether they should be included in the final review. Disagreements about which articles to include were resolved through consensus. Twenty-four articles were selected for final inclusion in this report. Each study was summarized according to type of program and study quality.

Mapping the Landscape of Youth Suicide Prevention

Following a review of all relevant articles, a conceptual grid was developed to capture the 13 key elements of comprehensive youth suicide prevention programs (see Table 1). While the grid has been constructed to facilitate mapping the landscape of suicide prevention activities, a note of caution needs to be offered. The grid may unintentionally perpetuate a fragmented approach to the problem by suggesting that the core elements are discrete, singular efforts. Despite its one-dimensional appearance and bounded cells, the grid should be viewed as a whole, where strategies cut across settings, where boundaries between efforts are porous, where ends and means are often enmeshed and where each element of the overall effort mutually reinforces the others. Implementing one strategy (or operating in only one cell of the grid) is not likely to lead to meaningful and enduring changes in youth suicidal behaviour.

While families, schools and communities provide the primary contexts for the delivery of prevention programs, youth are commonly the direct recipients of many of these program efforts, particularly those that are undertaken in the school setting. Many of the prevention efforts undertaken in schools can be easily modified for a broader community setting (e.g., targeted interventions for high-risk youth). Finally, all of these efforts are best supported by the presence of specific enabling factors and actions that cut across all of the contexts including: well-developed policies, organizational partnerships and collaborative action at the local level.

Table 1. Key Elements in a Comprehensive Prevention Program

Level of Intervention	Promoting Competencies and Capacities	Improving Early Detection	Reducing Risks	Minimizing Contagion
Parent / Family	Parent / family support and skill development	Parent education about suicide	Means restriction education for parents and families of high-risk youth Family and group interventions for youth at potential risk	(No published studies exist that target parents / families)
School	Youth skillbuilding	Peer recognition and response training School in-service training	Targeted interventions for high-risk youth	Suicide response protocols
Community	Local control, cultural renewal and healing for First Nations	Education for health practitioners Gatekeeper training	Targeted interventions for high-risk youth	Media education

3 FINDINGS

3.1 Summary

Empirical support is strongest for targeted interventions for high-risk youth.[46,48-50] Recently published studies are providing renewed support for school-based peer recognition and response training.[51-54] Youth skill-building, and family and group interventions for youth at potential risk also show considerable promise.[55-58] Other approaches that are based on limited research findings but have strong theoretical justification are worth pursuing. These include family support and skill development,[59] parent education about suicide,[60] means restriction education for parents of high-risk youth,[61] school in–service training,[62,63] community gatekeeper training,[64] education for health practitioners,[65,66] media education[67] and post-suicide response protocols.[68,69] Finally, the accumulation of evidence that confirms the importance of local control, cultural renewal and healing in reducing suicide risk among Aboriginal youth offers a clear direction for the development of culturally relevant prevention strategies in First Nations communities.[18,70] Such approaches respect Indigenous knowledge while also being theoretically compelling and empirically justified.

The next section summarizes the findings from the 24 articles reviewed for this paper. The three main contexts for program delivery will serve as organizational headings: (1) parent/family interventions; (2) school interventions; and (3) community interventions. Under each of these broad headings, findings will be further classified using the core elements identified in the sub-headings of Table 1. Any program findings that are directly relevant to the prevention of suicide among Aboriginal youth will be specifically highlighted given the disproportionately high rates of suicide among First Nations youth.

3.2 Parent and Family Interventions

Family Support and Skill Development

Toumbourou and Gregg evaluated the Australian parent education program *Parenting Adolescents: A Creative Experience (PACE)* that was delivered by trained facilitators across Australia.[59] The aim of PACE was to empower parents of high school students by teaching group problem-solving skills. Curricula were reinforced through discussions, pamphlets, booklets and homework assignments. Results indicated that this universal "empowerment-based" parent education program could positively affect a number of youth suicide risk factors including substance use, delinquency, level of perceived parental care and family conflict, with greater effects occurring with higher levels of parental participation.[59]

Family Education About Suicide

Educational programs that are specifically designed to raise parents' awareness about depression and suicide have not been rigorously evaluated and the data in support of such programs are almost nonexistent. Only one published study was identified that evaluated the effects of an educational video on parents' knowledge and attitudes about suicide as well as parents' intentions to help.[60] These authors found that after watching a video, parents became more knowledgeable about warning signs of suicide and could respond to behaviour indicating suicidal potential more appropriately.

It is important to remember that insufficient evidence is not the same as evidence of no effect or a negative effect. In the case of parent education about suicide, there remains strong theoretical and empirical justification for pursuing this strategy. For example, signs of depression or suicidal thoughts can frequently go undetected by parents in contrast to some of the more visible mental health problems like substance abuse or behaviour disorders.[71] Furthermore, by ensuring that parents are knowledgeable about the risk factors and warning signs of depression and suicide, not only are we increasing the likelihood that symptoms among their own sons and daughters will be detected but we are also increasing the likelihood that signs of suicide among the friends of their children will be more easily recognized, thus extending the overall network of adult vigilance, care and support to more potentially vulnerable youth.

Means Restriction Education for Families of High-risk Youth

Means restriction education is designed to help parents and caregivers of depressed and high-risk youth understand the link between having access to the potential means for suicide (e.g., firearms or medication) and the increased risk for self-harm and suicide. Core messages include: educating parents that they can reduce risk by limiting access to lethal means (especially firearms) and helping parents to problem solve regarding how to limit access. Very few means restriction education efforts have been rigorously evaluated but one potentially promising study warrants brief consideration. Kruesi and colleagues were able to follow adult caretakers of children and youth (aged 6 to 19 years) who had attended an emergency department (ED) in the previous two months for a mental health assessment. The researchers wanted to determine if receiving means restriction education at the time of their ED visit made a difference in parent's future actions regarding limiting access to lethal means.[61] Findings revealed that training in means restriction was significantly associated with new action to limit access to firearms,prescriptions and over-the-counter medications but not to alcohol.[61]

Family and Group Interventions for Youth at Potential Risk

Children of depressed parents are themselves at heightened risk for depression and other forms of psychopathology. In turn, depression is a risk factor for suicide. Family-focused and group interventions that target the offspring of depressed parents are designed to reduce risk factors, promote competencies and increase awareness of depression in family members. While the effect of these types of interventions on the specific outcome of suicide-related behaviour in youth is not entirely clear, these interventions have been shown to be effective at reducing depressive symptoms in youth of depressed parents, which makes it a promising prevention strategy to pursue.

Clarke and colleagues conducted a RCT to determine the preventive effects of a brief group intervention for the offspring of depressed parents.[58] The 15-session intervention was a modified version of an adolescent depression treatment program and was based on cognitive re-structuring techniques. Three separate parent information sessions were held at the beginning, middle and end of each adolescent group. The intervention was offered to youth aged 13 to 18 years whose parents were being treated for depression. These youth had depressive symptoms but they did not meet the clinical criteria for a mood disorder. Results indicated that compared with youth in the usual care condition, those in the intervention group experienced depression symptoms and episode rates that more closely approximated the "community-normal" range.[58]

In a more recent study, Beardslee and colleagues evaluated two manual-based, family-focused prevention programs: a lecture session and a clinician-facilitated session.[57] Both conditions were designed to increase positive interactions between parents and children, increase understanding of depression among all family members, increase children's self-understanding and reduce symptoms of depression in children. What distinguished the two approaches was linking the cognitive information to the specific family experience in the clinician-facilitated session. Results indicated that at two-year follow-up, internalizing scores (e.g., anxiety, depression and social withdrawal) for youth (aged 8 to 15 years) in both groups decreased with time since the intervention.[57] It is clear from this study that engaging with depressed parents, providing psychoeducational materials, teaching strategies for enhancing resilience in children, linking information to families' particular illness experience, and providing long-term support and follow up represents a promising and comprehensive approach to reducing risks for depression among children and youth.

3.3 School Interventions

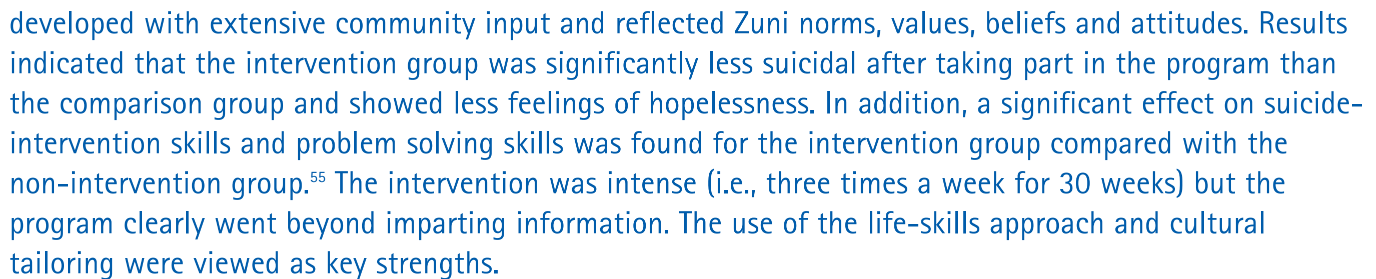
Youth spend a significant portion of their time at school, making it an ideal place for the implementation of a variety of suicide prevention programs. A comprehensive, school-based approach to prevention includes the following components: youth skill building, school in-service training, peer recognition and response training, targeted interventions for high-risk youth (including screening) and suicide response protocols. Even though these program elements are discussed separately here, ideally all of the strategies discussed should be incorporated as part of an overall, comprehensive school-based suicide prevention strategy and should be supported by clear policies and administrative guidelines. Ensuring the availability of mental health assessment and treatment services and developing links to crisis response programs are also integral components, even though these clinical efforts fall outside the scope of this report. Finally, it should be noted that many of the strategies directed at youth could also be taken up in non-school settings, such as community-based youth programs, drop-in centres and other settings that draw large numbers of young people.

Youth Skill-Building

Zenere and Lazarus evaluated the effectiveness of a comprehensive, multi-year suicide prevention program. *To Reach Ultimate Success Together (TRUST)* that was implemented in a large public school system in the United States.[56] By examining data on student suicidal behaviour (including suicidal thoughts, attempts and completions) the researchers compared data before and after implementation of the program to assess the impact of the comprehensive approach.

In addition to regularly scheduled in-service training for school staff (two hours every three years) and the development of policies and procedures that outline the role of the school in the event of a student suicide, the program focused on implementing a comprehensive, multi-year student curriculum. Thus, during their formal education, all students will have participated in the *TRUST* program. Most of the program is delivered as part of the health education program and stresses the importance of selfesteem, coping skills and healthy decision-making. During Grade 10, the topic of suicide is introduced in a mandatory, one-semester curriculum entitled *Life Management Skills*. Results indicate that since the program's inception in 1989-1990, there has been a dramatic decrease in the average annual number of student suicides (62.8%) as compared with 1985-1988. Furthermore, the level of student suicide attempts steadily decreased during the five-year period from 243 in 1989-1990 to 95 in 1993-1994.[56]

Very few prevention programs for First Nations youth have been formally evaluated. One exception is a school-based, skill-building program implemented in an American Indian community.[55] The purpose of this study was to evaluate the effectiveness of a school-based, culturally sensitive, life-skills suicide prevention program for reducing behavioural and cognitive risk factors associated with suicide in the Zuni pueblo—an American Indian reservation in New Mexico. The *Zuni Life Skills Development (ZLSD)* curriculum was structured around seven major units: building self-esteem, identifying emotions and stress, increasing communication and problem-solving skills, recognizing and eliminating self-destructive behaviour, receiving suicide information, receiving suicide intervention training, and setting personal and community goals.[55] The curriculum was presented approximately three times per week over 30 weeks during the school year. The program was



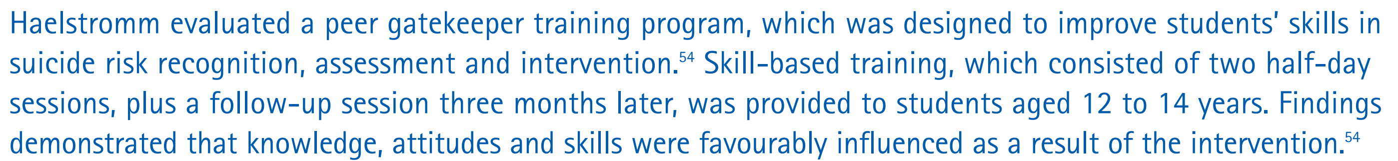
developed with extensive community input and reflected Zuni norms, values, beliefs and attitudes. Results indicated that the intervention group was significantly less suicidal after taking part in the program than the comparison group and showed less feelings of hopelessness. In addition, a significant effect on suicide-intervention skills and problem solving skills was found for the intervention group compared with the non-intervention group.[55] The intervention was intense (i.e., three times a week for 30 weeks) but the program clearly went beyond imparting information. The use of the life-skills approach and cultural tailoring were viewed as key strengths.

Peer Recognition and Response Training

The phrase "peer recognition and response training" is being introduced here as a way to describe activities designed to improve young peoples' ability to recognize suicide risk in a peer and initiate getting help. Traditionally, programs of this sort have been known as suicide awareness programs or curriculum-based suicide prevention programs and the evidence for their effectiveness has been mixed.[73] Part of the problem may be that these programs have been considered "one-offs," and the intentions have not always been clear, leading to poor program designs, unrealistic expectations and inappropriate evaluation targets. Re-casting this set of activities as peer recognition and response training and embedding it within a larger set of overlapping activities represents more than mere semantics. Instead, it reflects the intentions of these activities more explicitly: the target audience is peer responders; the goal is to increase recognition and responsible action among youth who encounter a potentially distressed or suicidal peer (i.e., tell an adult); and these program activities must be supported by other complementary prevention and intervention efforts including youth skill-building, school in-service training, parent education, school administrative policies, and crisis intervention and treatment services.

Since 1995, only a few evaluation studies that examine the effectiveness of peer recognition and response training (or classroom-based suicide prevention efforts) have been published. The most recently published study (discussed below) provides strong empirical support for the effectiveness of a school-based suicide prevention program on reducing suicide attempts among participating students.[51] A brief review of key findings from earlier studies is presented first.

Following a classroom based suicide prevention program, Kalafat and Gagliano found that there was a significant difference between the intervention group and the comparison group in terms of their response to a potentially suicidal peer.[53] Based on the use of vignettes to assess students' understanding and responses, the authors found that among those in the intervention group a greater percentage of responses fell into the "tell an adult" category. Another study was designed to assess the effectiveness of student training in the use of No-Harm Agreements (NHA), which involved the youth promising not to hurt themselves before talking to a counsellor. In this study, Hennig, Crabtree and Baum found students who received the NHA training were significantly more likely to ask if a peer was having suicidal thoughts and were more likely to ask a high-risk individual to avoid self-harm until professional help could be secured, immediately after and seven weeks after the intervention.[52] NHA training also significantly increased knowledge about myths. Stuart, Waalen and



Haelstromm evaluated a peer gatekeeper training program, which was designed to improve students' skills in suicide risk recognition, assessment and intervention.[54] Skill-based training, which consisted of two half-day sessions, plus a follow-up session three months later, was provided to students aged 12 to 14 years. Findings demonstrated that knowledge, attitudes and skills were favourably influenced as a result of the intervention.[54]

Promising findings based on a much more rigorous design have recently been published.[51] These authors provide the first published account of a school-based suicide prevention program leading to a reduction in self-reported suicide attempts that is based on a randomized experimental design. The Signs of Suicide (SOS) program combines suicide awareness curricula with a brief screening tool for depression and suicide risk. The program is typically implemented during one or two classroom periods. The curriculum teaches high school students to respond to the signs of suicide as a mental health emergency using the "ACT" approach, which stands for acknowledge, care and tell. First, *acknowledge* the signs of suicide that others display and take them seriously. Next, let that person know you *care* about him or her and that you want to help. Then, *tell* a responsible adult. As part of the program, students are also asked to complete the Columbia Depression Scale. The brief form is scored by students, with those scoring at 16 or above strongly encouraged to seek help immediately. A list of resources is provided to all students. Results indicate that youth in the intervention condition were approximately 40% less likely to report a suicide attempt in the past three months compared with youth in the control group. Knowledge gains and attitudes favourable to suicide intervention were also noted in the experimental group.[51]

School In-Service Training

Students typically have regular daily contact with a variety of school-based professionals and support staff including teachers, counsellors and administrators, as well as bus drivers, cafeteria workers, secretaries and coaches. These adults are in a unique position to detect potential signs of depression and suicide risk in students. However, very few school gatekeeper training programs have been rigorously evaluated. Only two studies met criteria for inclusion in this report. In the first study, Mackesy-Amiti and colleagues evaluated a program designed to increase school staff's knowledge of effective suicide response strategies.[63] The intervention in consisted of an interactive training program called *Preparing for Crisis*, which helped school personnel to develop and implement a crisis plan for sudden loss. Results indicated that overall knowledge scores on the post-test were significantly greater than those on the pretest.[63]

In the second study, Davidson and Range assessed the effectiveness of a one-hour suicide prevention module for students who were training to be teachers.[62] The objective of the module was to increase knowledge about youth suicide and to increase understanding about how to respond to suicidal youth. Topics included warning signs of suicide, facts about suicide, specific suggestions for teachers (i.e., ask, tell, stay, communicate) and information about local mental health resources. The module was designed to impart knowledge and reduce anxiety among new teachers. Results indicated that with training, student teachers were more willing to take a suicide threat seriously and initiate specific action to prevent it.[62]

Targeted Interventions for High-Risk Youth

While youth skill building, and peer recognition and response training programs are aimed at all students, targeted programs are more narrowly focused on high-risk youth. By design, these types of interventions typically include some form of screening for suicide risk. The screening strategy is included here to illustrate how screening can be implemented with a specific follow-up intervention. In recent years, school-based targeted prevention programs have become more common. Rigorous program evaluations, several of which are based on strong experimental designs, have recently been conducted to assess the effectiveness of school-based targeted prevention programs for potential high school dropouts. Results indicate that brief, skill-based, social support enhancement interventions can be effective in reducing risks for suicide immediately after the program, 10 weeks later and at nine-month follow-up.[48-50]

Recognizing that high-risk behaviours are often connected to one another and can occur at the same time, Eggert and colleagues developed a prevention program with the following goals: to reduce depression and suicidal behaviour, to reduce drug involvement and to improve school performance.[48] Students identified as at-risk for school drop-out and suicide were assigned to one of three intervention conditions: assessment (i.e., two-hour interview) plus one semester of personal growth classes (PGC), assessment plus two semesters of PGC and assessment only. Each youth, regardless of study condition, was personally introduced to a case manager and each student's parent or guardian was also contacted. Results indicated that there was a significant decline in suicide risk, hopelessness and depression for all three groups. There were also significant increases across time for the three groups in self-esteem and social network support.[48]

In later studies these findings were strengthened through the use of a stronger experimental design.[46,49] In these studies, participants were randomly assigned to one of the following groups: (1) *Counsellors CARE (C-CARE)* – a face to face, two-hour assessment interview followed by a one- to two-hour counselling session and social connections intervention with parents and school personnel; (2) *Coping and Support Training (CAST)* - a combination of the *C-CARE* intervention, and 12 one-hour, small group skills training and social support sessions that took place over six weeks; and (3) control group, which included a brief, 30-minute assessment interview and a social-connections intervention with school personnel and parents. Results indicated that youths in all three groups showed a significant decrease in suicide risk behaviour and depression. Reductions in depression were primarily the result of the *C-CARE*. Significant effects were observed for all three groups in anger control, self-esteem, personal control and problem-solving skills.[46,49]

Positive results emerging from these school-based targeted prevention programs appear to persist over time. Among other things, Thompson and colleagues found that reductions in direct suicide risk behaviours (i.e., attitudes and thoughts about suicide) were sustained at nine months follow-up.[50] Furthermore, increases in protective factors (i.e., sense of personal control, problem-solving skills and family support) were also observed at follow-up with the strongest and most consistent effects occurring for students in the *CAST* skill-building program.[50]

Post-Suicide Response Protocols

Post-suicide response protocols guide activities and processes *after* a suicide. These interventions are designed to identify high-risk youth, reduce risks for imitative suicidal behaviour and subsequent mental health problems, and facilitate healthy expressions of grief. Such response efforts are typically short-term and usually include one or more of the following: providing accurate information about the suicide, allowing for the expression of feelings and reactions about the deceased, identifying and referring those at-risk and facilitating a return to pre-crisis levels of functioning.

Youth suicides are relatively rare and unpredictable. When a young person dies by suicide, the focus of most schools and community service providers is on responding to the crisis in a safe and responsible way. Rightly so, methodological concerns usually take a back seat to very practical and urgent needs (i.e., What should be done following this suicide to reduce the risks among those exposed?). At another level, ethical issues (i.e., withholding potentially helpful interventions from those exposed to a suicide) can seriously hamper the use of controlled evaluation studies in this area. For these reasons, it is not surprising that evidence regarding the effectiveness of post-suicide response efforts is scant. As a result it is sometimes necessary to rely on research methods that can accommodate the complexities of the situation. For example, most of the studies that have been done in this area represent natural research designs (investigators are restricted to studying the effects of typical response strategies in schools and communities). This usually means that most designs are retrospective, sample sizes are typically quite small, there is often a considerable time lag between the crisis event and the assessment, and researchers typically have limited (if any) control over the type and quality of intervention delivered.

One study investigated the effects of different school-based responses to suicide including "first talk-through" and psychological debriefing following six adolescent suicides in one school year in rural communities in Northern Finland.[68] Following the suicides, some schools and classrooms received an adequate post-suicide response, while others did not. Incidences of new suicides in the three schools were followed for four years. Results indicate that in schools where a "first talk through" and psychological debriefing were conducted by a mental health practitioner, no new suicides appeared during the four year follow-up. In contrast, at the school where teachers conducted a classroom meeting in all but one Grade 8 class, a second suicide took place two months after the first suicide by a student whose class had not had the classroom meeting. Finally, those students who did not receive an adequate crisis intervention had a greater risk for high-intensity grief than those who received the intervention and evaluated it as good.[69]

There are no published articles that evaluate post-suicide response strategies in a First Nations context and yet suicide clusters are often a concern, since the death of one person by suicide usually has a direct effect on all community members in small, close-knit communities.[17] Post-suicide response strategies represent an important component in any overall youth suicide prevention strategy because they are designed to support those affected by the suicide, reduce risks for contagion and identify those at highrisk.

In a First Nations community, post-suicide response efforts need to reflect the particular community's traditional healing rituals and spiritual practices. Striking a balance between reducing risks for contagion

by discouraging large, public and emotionally charged gatherings that may inadvertently glorify the suicide victim (making it a potentially attractive option to others) and honouring local traditions and cultural practices following suicide can be difficult given the potential tensions inherent in the combination of approaches. By familiarizing ourselves with the information on contagion and being mindful of community control, traditional healing practices and holistic approaches to community wellness for First Nations communities, approaches can be designed that fit the needs of the particular community.

3.4 Community Interventions

Local Control, Cultural Renewal and Healing for First Nations

While it is recognized that BC is populated by a diverse range of immigrants and cultural groups, all of whom experience stressors and losses that could put them as risk for suicide, the disproportionately high rates of suicide and suicidal behaviour among First Nations youth warrants more focused attention.[17] It is also understood that First Nations peoples in Canada represent a broad range of diverse and distinct cultures. For this discussion the assumption is that Indigenous communities in North America share a common social and political history that is highly relevant for understanding and preventing suicide among youth (for example colonization, cultural disruption, and social and political disenfranchisement).

In a series of studies conducted in BC comparing community-level characteristics of First Nations communities, Chandler and Lalonde have identified variables that appear capable of differentiating communities with high rates of suicide from those communities with a suicide rate closer to zero.[18] These variables include: self-government, land claims, cultural facilities, and control over education, health, police/fire and child protection. While it is not well understood just how these broad social practices make a difference in the overall youth suicide rates in First Nations communities, it is clear that communities with low rates of youth suicide possess valuable and legitimate knowledge that can be shared with other communities.

Healing that places an emphasis on wholeness and balance in body, mind, emotions and spirit represents an important concept in promoting the wellness of First Nations youth and families. The concept of healing from a First Nations perspective contrasts with Western-based medical notions of treatment that tend to focus on eradicating symptoms or pathology.[70,74] Despite its prominence as a strategy for understanding and supporting youth and family well-being, the First Nations concept of healing is often difficult for many people, especially non-Aboriginal practitioners, to grasp. Genuine healing from trauma, distress and thoughts of suicide typically requires a change in the conditions that gave rise to the crisis or loss in the first place.[74] Relationships are significant elements in these contexts and include networks of family, friends, colleagues and larger community systems. Making a positive difference in First Nations communities requires the development and implementation of systemic strategies that go beyond reducing symptoms in individuals to recognizing and embracing the broader ecological and interpersonal contexts that provide the base for enduring health and well-being.

Paproski used a qualitative research design to understand the healing experiences of First Nations women from BC who were suicidal in their youth.[70] She found that the impact of separation from families, community and culture were prominent in each of the women's accounts. In terms of healing, each woman reported that spiritual practices and reconnecting with elders or family members were particularly important, especially in

the long-term. Spiritual practices for these women included connection to the Creator, being in nature, prayer, singing, ritual and participating in healing circles.

Education for Health Practitioners

Based on evidence that suggests many suicidal youth contact their general practitioners (GPs) in the months prior to suicidal acts, an Australian study was designed to determine the effectiveness of a one-day training program for GPs in recognizing and responding to psychological distress and thoughts of suicide in youth.[66] A research project was developed to audit consecutive young patients visiting GPs' offices in the six weeks prior to training and six weeks after. Results indicated that after training, GPs demonstrated a significant increase in their recognition of distressed patients, specific identification of suicidal patients increased and inquiry about suicidal thoughts increased (although it did not reach statistical significance). Training did not lead to any significant changes in patient management strategies.

Since many youth who make suicide attempts come to the attention of hospital ED staff, the period immediately following discharge from emergency represents a "critical window of opportunity" for prevention through means restriction education. To assess the effectiveness of a mail-out campaign on means restriction education which targeted hospital ED personnel, Fendrich and colleagues compared the responses of ED staff from two cities; one group who had received the information package and the other who had not.[65] Results indicated that the intervention might have enhanced the knowledge base of participants while having little impact on behavioural outcomes. The authors speculated that more intensive, interactive educational strategies might be needed.[65]

Gatekeeper Training

Community gatekeepers are a diverse group that includes youth workers, police officers, coaches, probation officers, foster parents, volunteers and others who have regular, typically "non-clinical contact" with youth. The strategy of educating these individuals is easy to justify on theoretical and logical grounds and gatekeeper training continues to get strong endorsement from those who work in the field. However, no studies that specifically evaluated the effectiveness of community gatekeeper training in reducing rates of youth suicide have been published since 1995. Nevertheless, an Australian study that examined the effectiveness of a gatekeeper training program in the context of a whole community is described below.

Capp, Deane and Lambert evaluated the effectiveness of a community gatekeeper training program in an Aboriginal community in the Shoalhaven region of New South Wales, Australia.[64] In response to concern over disproportionately high rates of suicide in the community, a series of local discussion groups were formed to help residents identify factors associated with suicide, barriers to seeking help and strategies for distributing suicide prevention messages. Feedback from these community consultation meetings was used to develop community gatekeeper training programs. The main goals of the one-day workshop were to increase the ability of community members to identify those at risk of suicide, mobilize local informal helping networks and facilitate help-seeking behaviour. Results indicate that the workshop led to increased knowledge and confidence in identifying individuals at risk.[64] Intentions to help a suicidal individual were high among workshop participants at the outset and remained so at the conclusion of the workshop. It is also worth

noting that as confidence among gatekeepers increased, the likelihood that they would refer a high-risk person to a mental health centre decreased. Although not statistically significant, these findings call attention to the following possibility: "Combined with a strong political agenda of self-determination it is possible that training may empower Aboriginal people to use their own available helping resources, rather than calling for outside help."[64]

Media Education

Evidence confirms that certain types of media stories about suicide can contribute to imitative or "copycat" suicides among those exposed to the stories. This effect appears to be particularly pronounced among youth. Further, the magnitude of the increase in suicide deaths following a news report appears to be proportional to the level of coverage, the duration of the story and the prominence of the coverage.[22] In one of the few field experiments undertaken in this area, Etzersdorfer and Sonneck examined the number of suicide attempts and suicides in the Viennese subway system following the launch of a media campaign designed to increase responsible reporting about suicide.67 Following the campaign, media reports about suicide changed considerably. In particular, the reports on suicide became much more "moderate" in tone and, in several instances, subway suicides were unreported altogether. Results indicated that subway suicides and attempts decreased considerably and remained low for several years following the media campaign.[67]

Given that media coverage of suicide stories represents a risk factor for youth suicide, the development of media guidelines represent an important element in any overall youth suicide prevention strategy. These guidelines are designed to educate reporters, dispel doubts about the phenomenon of contagion and provide practical strategies for reporting on suicide. Guidelines that represent the consensus of experts based on the research literature have recently been produced (a complete copy of the document *Reporting on Suicide: Recommendations for the Media* is available from: www.afsp.org/education/recommendations/5/index.html). The report recommends the following:

- Suicide stories should not be given undue prominence in newspapers or in TV news
- Sensational and prominent headlines that focus on the suicide are strongly discouraged
- Detailed descriptions about the method of suicide should be avoided
- Wherever possible, stories should highlight the significant role of mental disorders, particularly depression and substance abuse, in suicidal behaviours
- Reporters are encouraged to convey the fact that effective treatments exist to encourage others with mental health problems to seek help

4 TAKING ACTION

4.1 Focus on what is Modifiable, Justifiable and Responsive to Local Needs

Youth suicidal behaviour is complex. There is no simple explanation, screening procedure or assessment tool that can reliably predict which individuals will commit suicide. To understand suicide among youth, we need to consider the role of biological, psychological, cultural and spiritual factors because all of these factors play a role in the emergence of suicidal behaviour.

Some risk factors for youth suicide are more easily modified and hence more amenable to intervention. For example, research suggests that the following demographic groups are at statistically elevated risk for suicide: males, older adolescents and Aboriginal youth. While none of these demographic characteristics can be directly modified, the prevention approaches that have been identified in this report can be tailored to ensure that they are developmentally, socially and culturally relevant for the particular target audience. At the same time, focusing on risk factors and conditions that are more easily modified, including promoting youth competencies through skill-building efforts, improving gatekeepers' and health practitioners' skill and knowledge about how to detect risk and intervene, enhancing social support among high-risk youth, educating parents about restricting access to lethal means and reducing sensational media reports are all important areas to address.

Given our various practice locations, it may not always be possible to bring about widespread social and political change at the community level (e.g., increasing local control over services in First Nations communities). However, we can support communities to take actions in these directions given the apparent protective functions these factors serve in terms of lowered rates of youth suicide.[18] Furthermore, a recent review of the literature on promoting mental health among First Nations children and youth found that the most promising approaches were comprehensive and considered activities that strengthened cultural identity, identified and promoted existing and traditional sources of strength within First Nations communities, incorporated traditional healing methods and relied on local control (i.e., being self-directed by First nations communities).[9]

Finally, even though the evidence supporting certain prevention approaches is relatively sparse, it is important to make a distinction between establishing recommendations based exclusively on science and putting forth an agenda that is informed by science and balanced with the practical needs of local service providers and citizens. In other words, faced with a potential suicide cluster in a small remote community, youth mental health practitioners, community leaders and policy-makers need to know what to do right now to reduce risks for copycat suicides. The emphasis is on "doing something" and, in the absence of empirical certainty, we must support local service providers to act in a way that is ethically responsible, theoretically sound and justifiable in the particular situation.

4.2 Strengthen Partnerships between Mental Health and School Systems

Several promising youth suicide prevention strategies are implemented within the school setting. For example, in BC it is quite common to find student-focused, classroom presentations on suicide being regularly taught at junior and senior high school. Youth mental health practitioners and their local service partners can continue to play an important role in promoting safe and effective school-based approaches to youth suicide prevention by becoming familiar with the latest evidence and by developing active relationships with schools.

It is hoped that the information provided in this report can help school-based suicide prevention planning teams decide how to expand and refine their programs to better reflect the following "best practice" considerations:

- Consult with school administrators to ensure that policies and procedures for responding to high-risk students, suicide attempts and suicide deaths are in place[73,75]
- Develop comprehensive universal approaches to educating and mobilizing students, schools, parents and community service providers[27,73]
- Complement universal approaches with targeted school-based screening and prevention programs for high-risk youth[48,50]
- Ensure that students have access to high-quality information on how to help a distressed peer given evidence that confirms youth will either try to cope alone or turn to a friend when feeling suicidal[76]
- Establish referral links with community-based youth mental health services[77]

As well, a number of recommendations have been developed for youth mental health practitioners who are interested in strengthening their relationship with the school system.[78] Collectively these recommendations could reduce barriers, increase mutual understanding and provide a more promising way forward:

- Learn about school laws, policies and procedures
- Make a concerted effort to understand the school culture
- Develop relationships with teachers and administrators
- Schedule regular times to meet with educators
- Share treatment plans and offer feedback to teachers after working with youth
- Be receptive to teacher concerns about students
- Assist in school development and teacher training
- Spend more time in schools and be reliable about attendance
- Maintain a consistent schedule but be flexible in service delivery
- Try to focus on prevention and early intervention

4.3 Develop Supportive Policies and Promote Collaborative Action

In order to implement many of the strategies identified here, a high-level organizational commitment to prevention approaches across youth agencies is required. Provincial policy documents, like the recently prepared *Child and Youth Mental Health Plan for British Columbia,*[5] provide a good example of this level of commitment, with its explicit emphasis on risk reduction and capacity building efforts, in addition to treatment and support services, for promoting mental health and well-being among youth in this province.

The strategies outlined in this report for reducing suicide risk among youth are most likely to be successful when they draw on local resources and cultivate community capacity. Previous efforts which have examined the characteristics of local prevention coalitions suggest the most important ingredients for success are a task-focused orientation, attention to increasing members' skills, development of links with other organizations, broad-based and multiple-sector involvement and a shift towards increasingly collaborative interactions over time.[28,29] Examples of representatives to be included in a community-wide strategy include youth mental health services, school representatives, child protection workers, hospital emergency personnel, youth workers, police, local crisis centre staff, parent advisory groups and youth. In First Nations communities, involvement should be extended to include elders, spiritual leaders and other community service providers. In addition, survivors who have lost a family member to suicide are increasingly speaking out publicly about their losses and their unique perspectives can be invaluable in the development of local youth suicide prevention strategies.

Finally, it is important to note that many of the efforts outlined here have implications for staff training and professional development. For example, if youth mental health practitioners are to take a leadership role in initiating comprehensive, prevention approaches to reducing risks for youth suicide, they need to be supported in developing their skills in prevention and mental health promotion, community development, program planning, leadership and facilitation and inter-sectoral collaboration. They also need support to become critical consumers and appraisers of the existing research evidence so that they can actively promote the implementation of approaches that are empirically sound and culturally relevant. Provincial resources like Children's Mental Health Policy Research Program, can play a critical "research intermediary" role by providing youth mental health practitioners with easy access to a range of up-to-date and authoritative reviews on key topics relevant to the promotion of youth mental health. Where research evidence is unavailable, practitioners should be encouraged to research and evaluate their own prevention practices. In this way, evidence-based practice becomes less of an application of university-based researcher knowledge, and more of a dynamic process enabling youth mental health practitioners to use their own experience to review the literature and critically reflect on their own practices and organizations.[41]

4.4 Conclusion

This report has outlined several key components in an overall approach to preventing youth suicide within BC. Comprehensive strategies undertaken at the local level that capitalize on the existing resources and strengths of the community are considered the most promising. Four general "categories of action" should direct our activities in youth suicide prevention: (1) promote competencies and capacities; (2) reduce risks; (3) improve early detection; and (4) minimize contagion. These actions should be implemented across an array of prevention settings including families, schools and communities. We need to strategically combine approaches that target high-risk groups with those that are aimed at reducing risks and promoting protective factors at the population-level. We must intervene with youth and their social environments. We must work at finding novel ways to incorporate the relevant findings from other fields of inquiry. We must also maintain an ongoing commitment to evaluating our program efforts so that we can continue to refine our collective knowledge and improve our local efforts. By recognizing the complexity of youth suicide and by acknowledging its individual, familial, social, cultural and historical dimensions, youth mental health practitioners and policy-makers will be well-positioned to develop programs that blend the best of the empirical findings with other forms of knowledge, including theory, practitioner knowledge and local wisdom.

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A APPENDIX A

Criteria for Evaluating Research Articles

Basic Criteria
- Articles published in English about youth under 19 years of age
- Articles on topics relevant to youth mental health policy and practice in BC

Quantitative studies
- Clear descriptions of participant characteristics, study settings and interventions
- Comparison group included
- Outcome measures of known or probable clinical importance, as well as statistical significance
- Random allocation of participants to comparison groups (if available)
- Follow-up (end point assessment) of at least 80% of participants (if available)

Qualitative studies
- Content relates to how people feel, experience or understand situations that relate to health or care
- Data collection methods were appropriate for qualitative studies: semi-structured interviews, participant observation in natural settings, focus groups or reviews of text or documents
- Data analyses were appropriate for qualitative studies: the primary analytical mode is inductive rather than deductive; and units of analysis are ideas, phrases, incidents or stories that are ultimately classified into categories or themes

Ecological Studies
- Quantitative or qualitative empirical study of the effect of an intervention in context
- Reliable empirical study of the effect of one or more population level variables on dependent variable
- Limitations on interpretations clearly articulated
- Study limitations clearly articulated
- Process and outcome measures used (if possible)

Adapted from Evidence-Based Mental Health[79]