Responding
to challenges

FIGHTING DIABETES
PRESERVING A LEGACY

In-School Support for Students Living with Diabetes

Status and Recommendations
Canada

including comparisons with
Australia, United Kingdom, United States

SFBLF Diabetes Issues Report #2018-09-17-SI

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The mission of SFBLF is to Fight Diabetes and Preserve a Legacy.

Our focus is on disease prevention and disease self-management through education, clinical innovation and sustained support with an emphasis on youth.

Minimizing the transition challenges faced by youth living with diabetes as they navigate from the paediatric to the adult healthcare system is a key priority.

The SFBLF Diabetes Management and Education Centre (DMEC) is located in Alliston, Ontario, Canada at the Banting Homestead Heritage Park, birthplace of Sir Frederick Banting, co-discoverer of insulin and Canada's first Nobel Laureate.

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Contents

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Summary

Goals of this Report

This report is intended to:

* encourage more aggressive and timely action by those who have the leadership authority and resources to implement, improve and sustain in-school support programs for youth living with diabetes.
* support the in-school program advocacy initiatives of the Canadian Paediatric Society.
* provide information and frameworks to assist policy makers.
* provide information and resources to assist parents of students living with diabetes.

Report Context

The work was part of the SFBLF Annual Intern Research program undertaken through May to end of August, 2018.

This is the sixth research initiative by SFBLF since mid 2014 to help in the fight against diabetes with a focus on youth in response to challenges arising from: the relative absence of surveillance data for diabetes in youth; increasing appearance of mental illness comorbidities with diabetes in youth; the need for increased awareness and early intervention to reduce risk and help prevent or delay youth-onset Type 2 diabetes and complications for both Type 1 and Type 2; the need for improved transition processes to ensure continuity of care for youth living with diabetes.

Scope of the Research

This report is focused on 'school age children/youth' age 5 – 19. The study considered support for youth living with either Type 1 or Type 2 diabetes. The primary focus of the research was on Canada. Comparative analyses of selected aspects for Australia, United Kingdom and the United States are included.

The search considered data and information available from government organizations at the national, provincial, state, territory level in each country; organizations with a national diabetes-advocacy mandate; professional medical organizations and selected children's hospitals. Examples of policy expectations and specific role statements developed by individual School Boards or Authorities were also examined.

Confirmation of data and situation status - Canada

1. Each Canadian Province and Territory was contacted at Cabinet level to confirm the statistics for boards, schools, school personnel and enrolled students in their jurisdiction. The statistics assembled from other sources were adjusted based on responses received.
2. The 5 Canadian Provinces with an existing in-school support policy (at November 2017) were contacted at Cabinet level and requested to provide data on the number of boards/authorities and schools that have acted on their policy.
3. The Provinces and Territories without a policy were each contacted at Cabinet level and asked if plans were in progress to develop such a policy and if not, when might that happen and in the interim, do they have a formal position statement on the need for in-school support programs for youth living with diabetes.
4. Follow-up queries were made to all Provinces and Territories seeking confirmation of data tables and reminding them of the report publication date.

Summary - Key Findings

Essential Requirements

1. In-school support programs are essential

Students living with diabetes carry an additional developmental burden. They face many day-to-day challenges to effectively self-manage their condition. Whether living with Type 1 or Type 2 diabetes, students at school need varying levels of support in order to be safe and to have a positive and full experience.

Self-managing diabetes is a 24/7 requirement, is not an easy task and lapses can lead to medical emergencies. The diabetes 'condition' is not a consistent, stable process.

Students living with diabetes are subject to humiliation, increased anxiety and stress all of which can negatively impact the stability of their blood glucose levels, increase their risk of medical emergencies and dilute their motivation to learn.

Parents and families face disruption to work schedules absent a support program; sometimes requiring parents to resign from jobs or re-locate to be nearer their student's school in case of emergencies.

> *"The biggest struggle I had to face was the misunderstanding from teachers and classmates. I do not like to draw attention to myself. The only problem is, when you're having a low in the middle of a lesson, it is hard to not become the centre of attention when you must check your blood sugar and eat some snacks. I would sometimes become a distraction which would upset teachers and led to a lot of questions being asked of me such as, "ewww why won't your finger stop bleeding?" and, "I hate blood can't you go to the washroom and do that?" …. which made me beyond uncomfortable".*
> - T1 diagnosed at age 13

2. Standards are Essential

Standardized approaches in a given jurisdiction, whether provided as formal statutory policy or as recommended guidelines, are essential to establish 'familiarity and predictability' as well as continuity of care for a student moving from one level of the school system to the next or between schools due to family re-location. They also facilitate more cost-effective training and development of training materials for school personnel. Variability across the provinces and territories, as well as variability within the public, private, independent and religious schools can create gaps in care.

3. Including Type 2 Diabetes is Essential

Most existing policies or guidelines properly reflect a dominant focus on Type 1. In light of increasing youth-onset Type 2, it is essential to include guidance regarding support for Type 2.

Type 2 diabetes can remain invisible for a long time with the result that at time of diagnosis, cell damage can be in progress.

Recent research indicates that complications can occur earlier and can be more severe for youth with Type 2 versus Type 1; and Type 2 in youth is a more severe disease than Type 2 in adults with an increased risk of early mortality the younger the onset of Type 2. [25]

Both types require persistent attention to balancing blood glucose levels as part of preventing or at least delaying diabetes-related complications.

Students living with either type of diabetes are susceptible to hypoglycemia (a blood glucose level that is 'too low'). The risk is generally lower for those Type 2 cases who do not also require insulin. Even mild or moderate hypoglycemia requires immediate attention to prevent severe hypoglycemia, which involves loss of consciousness or seizure. [1]

Attention to diet, physical activity, frequent blood glucose monitoring and the administration of insulin or oral medication is essential. Students living with diabetes need help to achieve and sustain their disease 'self-management' skills, including while in school.

"Type 2 diabetes in childhood has the potential to become a global public health issue leading to serious health outcomes. More information …. is needed urgently"
IDF World Diabetes Atlas, 8th edition, Nov 2017 (p 60) [24]

4. School Level Programs Bring Added Benefits

Raise awareness; foster prevention
Implementation of a diabetes support program in a school helps to raise general awareness of the risks for youth-onset Type 2 diabetes and provides a unique opportunity to contribute to the pressing need for effective prevention of youth-onset Type 2 diabetes in the general student population.

Contribute to closing the surveillance 'knowledge gap'
The identification/registration process, essential to an effective in-school support program, positions schools, boards, authorities and ministries to make a very significant, pragmatic contribution to closing the diabetes prevalence 'knowledge gap'. The simple expedient of sharing basic data (without individual ID) for all registered students living with diabetes in their systems would make a real difference.

Policy Status

Creating a standard policy or guideline is an essential first step but does not guarantee action. The numbers of compliant school boards/authorities and schools remain unknown.

5. Knowledge vs Action

Basic knowledge about the required processes, facilities and capabilities for effective, daily support of youth living with diabetes in school is well established.

Standard policies or guidelines continue to emerge albeit, slowly. The implementation of required programs is lagging behind as are the essential 'tracking and reporting' processes required to provide a factual basis for measuring progress. Program implementation and tracking in Canada, and to varying extents in Australia, UK and USA, could be characterized as "top down inertia and very proactive bottom-up advocacy".

6. Policy Creation

The relatively slow pace of standard, statutory policy creation results from several factors:

* belief that a standard policy is inappropriate and needs are better met by 'local' decision-makers
* belief that existing processes within the healthcare system are sufficient to meet the required support needs
* delayed action due to higher priority needs and/or limited resources
* probable unwillingness to act

In November 2017, the Canadian Paediatric Society (CPS) and the Canadian Paediatric Endocrine Group (CPEG) published a report summarizing existing in-school support policies and processes for each Province and Territory in Canada. The report included a quality 'grade' assessment.

Table 2.1: Policy Status and Quality, November 2017 [6]

Province/Territory	Policy	CPS Scorecard
British Columbia	Yes	Good
Alberta	No	Poor
Saskatchewan	No	Poor
Manitoba	No	Fair
Ontario	In progress	Fair
Quebec	Yes	Good
New Brunswick	Yes	Fair
Nova Scotia	Yes	Fair
Prince Edward Island	No	Poor
Newfoundland & Labrador	Yes	Fair
Yukon	No	Poor
Northwest Territories	No	Poor
Nunavut	No	Poor

7. Policy vs Action and Coverage

There is clear national evidence that existence of a statutory 'policy' does not guarantee action and the absence of a statutory 'policy' has not inhibited some school boards/authorities from acting on their own. As well, the absence of a statutory policy does not mean there is an absence of recommended action from the dominant authority.

Given the complexity of the governance process within the Canadian educational system, the applicability of an existing Provincial/Territorial policy mandate or recommended guidelines does not mean that all schools in the Province/Territory are included. For example, many First Nations schools remain the responsibility of the Federal Government. Similarly, many private and independent schools are not necessarily required to implement such policies or guidelines.

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The extent of diabetes support in schools varies across Canada from province to province and among school boards within a province/territory. As at September 2018, 9 provinces and 1 territory have policies or guidelines in place for managing diabetes in school. Some of these apply also to other 'prevalent medical conditions'. (e.g., Ontario and Manitoba).

8. Current 'policy' implementation – Canada

Responses from Provinces with a policy (at November 2017)

No responding Province or Territory identified the number of boards or authorities who have acted on available policy or guidelines and none identified how many schools had a support program in place. One acknowledged they did not have that data. No response was received from Quebec or New Brunswick.

Responses from Provinces and Territories without a policy (at November 2017)

Ontario implemented a policy applicable to selected 'prevalent medical conditions' including diabetes in September 2018. [31 (h)]

Prince Edward Island has developed *Guidelines for Diabetes Management in Schools.* This document will be released in the Fall of 2018. [31 (f)]

Saskatchewan will adhere to its existing 'needs based service delivery' model reflecting their belief that flexibility for local authorities to establish their policies and programs is the correct approach. [31 (c)]. However, the Saskatchewan School Board Association has developed *Guidelines for Life-Threatening Conditions* [32]

A 2008 private members bill to establish in-school support for youth living with diabetes in **Manitoba** was defeated. Based on exchanges with the MLA who tabled that bill, it is possible that such a bill may be reconsidered in the future. [31 (d)] Manitoba does have a comprehensive set of guidelines and processes integrated with their healthcare system. [31 (d)]

Northwest Territories have a philosophy similar to that of Saskatchewan and supported with a *Student Handbook for Success* (2006) reflecting "a commitment for in-school supports for all students living with medical conditions" [31 (b)].

Alberta also has an approach similar to Saskatchewan and NWT but advise they are "*working with health colleagues to provide common and consistent expectations .. to support students with medical conditions .. including those with Type 1 diabetes*" [31 (i)]

In all cases of existing or new guidelines, there are varying degrees of process integration with the healthcare system.

No response was received from Yukon or Nunavut.

The provinces with the largest number of schools are Ontario (5,241), Alberta (2,479) and British Columbia (2,056). All other provinces and territories combined have a total of 3,256 schools, ranging from a low in Nunavut of 43 to 803 in Manitoba.

The 6 provinces that have policies in place as of September 2018 represent 198 school 'boards/authorities' of the 680 across Canada or 29%.

Assuming all schools, in the 10 provinces or territories with either a policy or guidelines, have acted or will act on the guidance, that would result in 277 or 41% of boards/authorities and 10,482 or 80% of schools involved in theory.

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9. 'National policy' status – Canada Compared

None of the 4 countries examined, Canada, Australia, United Kingdom, United States, has a nationally 'consistent' approach to in-school support of children/youth living with diabetes but as of September 4, 2018, Australia is moving to change that. In some respects, this reflects the decentralized responsibilities for education. All of the countries, however, have various laws and statutes that define required 'rights' for people living with 'disabilities' and for some, certain 'disease-specific' support requirements. Statutory support at the national level is greater in Australia, UK and USA than in Canada.

On September 4, 2018, the Minister for Health, Australia announced funding of $6 million over two years to develop a "*nationally consistent training program for teachers and school staff including the safe administration of insulin, hypoglycemia management and "normalizing" diabetes in schools so the students are not stigmatized*." [27 b]

Implementation Challenges

10. Achieving universal in-school support is difficult

Governance complexity in the school system, multiple stakeholders and viewpoints at the school level, 'self-management' needs dictated by the diabetes condition, systemic impediments, cost and time and the need for sustainability combine to make universal implementation a significant and protracted challenge.

Legal protection and rights are of concern for two stakeholder groups: Parents/students living with diabetes (entitlement to support under law) and school personnel who are involved in program delivery (personal liability arising from providing support).

In Canada, school employees will not be found liable if they take reasonable steps to assist a student with diabetes in an emergency situation [13], However, this appears not to be widely understood or perhaps, accepted by some school personnel and can be a barrier to action.

11. Scale of the problem space – Canada Compared

Canada has over 680 school boards/authorities, over 13,000 schools, more than 500,000 school personnel and at least 5.4 million school age children/youth enrolled in school. The scale of the problem space for Australia, in statistical terms, is similar to that of Canada. The United Kingdom faces a larger quantitative challenge and the United States has the largest. For example, number of schools: Australia 9,400, UK 32,000, US 132,000

Advocacy

12. School Level Programs - National Champions

In all 4 countries, there is a very wide array of guidance and support material for in-school programs. Underpinning all of that are recommended 'country-specific' guidelines from medical experts. Each country has a 'national advocacy champion'. In Canada, the Canadian Paediatric Society and the Canadian Paediatric Endocrine Group, are providing advocacy leadership. In Australia, the UK

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and the US, policy advocacy leadership and development of information and training materials for the implementation of in-school support programs are being provided by Diabetes Australia, Diabetes UK and the American Diabetes Association (ADA) respectively.

13. Other Advocacy Examples

Other organizations such as children's hospitals and community-based healthcare units are also providing information and training resources for key stakeholders. Several international groups such as the International Diabetes Federation (IDF) and JDRF also have support programs.

Policy and Program Content

14. Content Requirements – Consensus

Among the 4 countries examined, there is strong similarity in identification of fundamentals that need to be included in 'policy' documents for both ministerial and board levels.

Similar commonality applies for recommended components of an in-school support program.

Policy documents need to set a 'tone' as well as establish a 'mandate' and need to be accompanied by identification of resources available to facilitate policy implementation.

Setting a 'tone' should emphasize the requirement to nurture an inclusive, supportive and empathetic response by staff, teachers, and peers of students living with diabetes; emphasize the need for respect of the student's privacy; and provide clarity regarding liability of school personnel who act to assist a student living with diabetes.

[Supporting details for all of the above can be found in Section 2.0 Key Findings]

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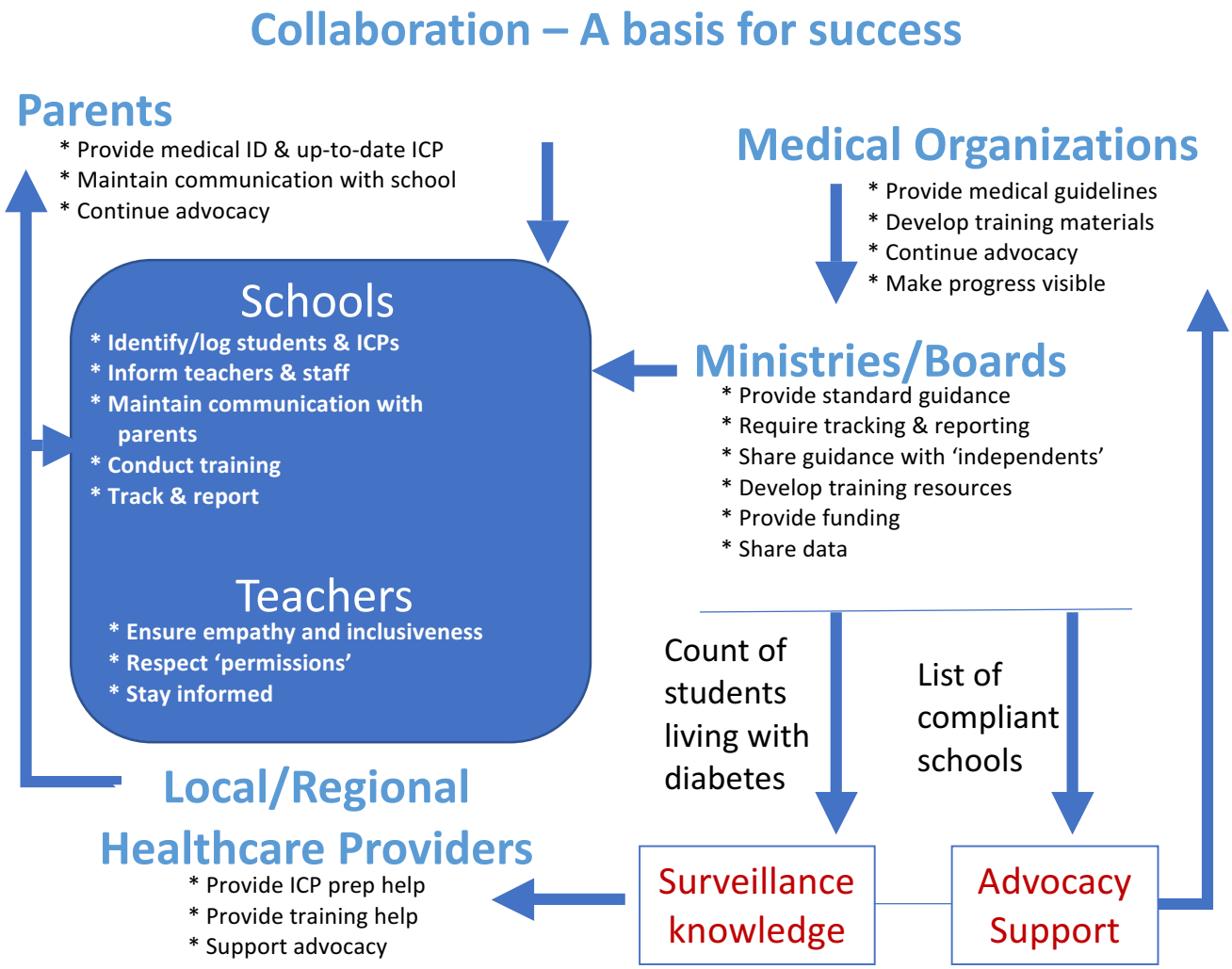
Recommendations



A. Recommendations for Parents of Students Living with Diabetes

1. Recognize that, with or without the existence of a mandated policy or guidelines for support of your student in school, you are ultimately responsible for the health and well-being of your student.
2. Be vigilant in ensuring use of medical ID by your student.
3. Create, share and maintain an up-to-date Individual Care Plan (ICP) for your student
4. Maintain timely communications with school personnel.
5. Continue to advocate for improved in-school support programs.

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B. Recommendations for Provincial/Territorial Ministers of Education and Ministers of Health

6. Frameworks developed at the Provincial/Territorial and school board/authority level, if not exclusively focused on diabetes, should contain diabetes-specific guidance and at a minimum, reflect the recommendations [1] of the Canadian Paediatric Society (CPS) and the Canadian Pediatric Endocrine Group (CPEG).
7. All Provinces and Territories in Canada without formal policies or guidelines, are urged to establish such a framework to ensure effective, standardized approaches to in-school support of youth living with diabetes.
8. All Provinces and Territories in Canada with formal policies or guidelines, are urged to enhance their guidance based on the additional recommendations of the November 2017 CPS assessment report where applicable. [6]
9. All formal policies or guidelines need to include;
    a. youth living with Type 2 diabetes whether or not they are using insulin.
    b. the importance of 'inclusion' in all school activities for youth living with any type of diabetes
    c. the need for general education to prevent humiliation, by school personnel, of students living with diabetes and likewise, to prevent bullying by peers
    d. clarity regarding freedom from liability for school staff who act to assist a youth living with diabetes
    e. an integrated list of permissions allowed and accommodations required for effective support of youth living with diabetes.
10. Provide funding commensurate with the policy expectations and include persistent follow-up processes.
11. To the extent that indigenous, private and/or independent schools are outside the direct policy jurisdiction of a Province or Territory, consideration should be given to sharing policy guidance and supporting educational material with these schools and encouraging compliance.
12. Establish and maintain practical reporting processes to confirm the implementation of:
    a. policy guidance at the board/authority level
    b. specific programs at the school level
13. Consider sharing data records of the number of youth in their system living with diabetes. Data records intended for sharing should not contain individual student identification but at a minimum, the following data: date of the data, grade, age, gender, diabetes type, age at onset, use of insulin and/or other medication and ethnicity. Sharing of such records would be a major contribution to improving knowledge of youth-onset diabetes prevalence in Canada.

C. Recommendations for School Boards/Authorities

14. All school boards/authorities are urged to create specific guidelines for their schools to ensure effective, standardized approaches to in-school support of youth living with diabetes.
15. If formal provincial/territorial guidance does not exist, then school boards/authorities are urged to advocate for the creation of such guidance while establishing their own approaches until standardized guidance is provided.

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D. Recommendations for Schools

16. All schools are urged to act on formal policies or guidelines provided.
17. If formal policies or guidelines do not exist, then at a minimum, schools should:
    a. As part of the student registration process, attempt to secure identification of those living with diabetes.
    b. Select a standard template for creation of an Individual Care Plan (ICP) and ask parents to provide and maintain a completed ICP for their student.
    c. Communicate with parents to establish clear expectations of the in-school support that can be provided.
    d. Ensure teachers and staff are aware of a student living with diabetes.
    e. Reach out to local healthcare providers and/or community-based organizations to identify the support and information they can provide for in-school programs.
18. Raise awareness of the risks for youth-onset Type 2 diabetes, help foster prevention and nurture an in-school culture of inclusiveness and respect for students living with diabetes by holding an annual, school-wide 'Diabetes Awareness Day'.
19. Promote healthy eating and regular exercise among all students.

E. Recommendations for Local/Regional Healthcare Providers

20. Work with parents of students living with diabetes to prepare and maintain up-to-date Individual Care Plans (ICPs).
21. Encourage parents to acquire appropriate medical ID for their student.
22. Reach out to schools to assist with teacher and staff training.
23. Continue to advocate for improvements in all aspects of in-school programs for support of students living with either type of diabetes.

F. Recommendations for the Canadian Paediatric Society (CPS)

24. The existing CPS guidelines for in-school support of youth living with diabetes references "Type 1 and other insulin-requiring diabetes" [1]. The guidelines should be enhanced to emphasize:
    a. specific recognition of youth living with Type 2 diabetes, with or without insulin
    b. the importance of adherence to treatment protocols in the prevention or delay of diabetes-related complications in either type as well as recognition that hypoglycemia is a risk for all youth living with diabetes.
    c. identification of high risk populations
    d. consideration of the cultural expectations of indigenous and immigrant populations.
    e. 'making the case for standardization'; for example, as summarized in the Key Findings section of this report.
25. The Diabetes at School web site is a valuable resource for all. It would be a helpful enhancement to include on this website an easily found, specific, integrated list of CPS expectations for the permissions and accommodations required at the school level. These can be found by reference to the 2015 paper by Lawrence, et al [1] but searching for, and understanding, such publications is not a convenient approach for many. Perhaps, include in a main section entitled, "For Policy

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Makers". That might also include the links to existing policies/guidelines already on the site along with new polices or guidelines that emerge.

26. The 2017 CPS 'scorecard' assessment process was a very effective 'heads up' for many and has made a significant contribution to raising awareness of the need. If it is to be repeated, consideration should be given to more flexible and broader criteria not based primarily on the existence of a formal policy document. The initial assessment process may have included other criteria and if so, they should be identified. It is clear that several provinces/territories are highly unlikely to adopt a 'mandated policy' model. As evidenced in the Key Findings of this report, the existence of a 'policy' does not guarantee action. To be sure, the existence of a 'policy' or a 'guidelines' document is a critical first step.

    What deserves to be assessed persistently is the resulting effectiveness to:

    a. ensure existence of an ICP for every student living with diabetes
    b. drive 'standardization' regarding permissions and accommodations
    c. require collaboration with healthcare providers and/or community support organizations to secure effective program implementation and sustainability
    d. track and report what programs have been implemented at the individual school level.

27. Encourage development of educational materials and resources that would provide specific support for language and cultural expectations associated with indigenous and immigrant populations.
28. Universal implementation of in-school programs for support of youth living with diabetes will take some considerable time. Persistent advocacy from the "bottom up" will be required for the foreseeable future. CPS should enhance advocacy efforts through:

    a. negotiating with ministries to secure regular updates of compliant schools.
    b. use of a 'visible incentive' program such as the "Honour Wall Awards" used by Diabetes UK to recognize compliant schools [28]
    c. creating a formal 'Diabetes at School' advocacy campaign such as is done by Diabetes UK ("Make the Grade") [28] and ADA ("Safe at School") [29]
    d. implementing a specific 'Helpline' for parents with concerns about in-school treatment of youth living with diabetes as done by ADA [29], Diabetes UK [28] and NDSS Australia [27]

SFBLF Offer of Collaboration

National accumulation of shared data for number of students living with diabetes requires a process.

Creation of an "Honour Wall Awards" program requires design and a tracking repository.

SFBLF welcomes the opportunity to collaborate with any organization interested in creating such capability.

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1.0 Purpose and Scope

Purpose and Context of the Study

This report is intended to encourage more aggressive and timely action by those who have the leadership authority and resources to implement, improve and sustain in-school support for youth living with diabetes; support the in-school policy advocacy initiatives of the Canadian Paediatric Society; provide information and frameworks to assist policy makers; provide information and resources for parents.

The work was part of the SFBLF Summer Intern Research program and undertaken through May to end of August 2018.

This is the sixth research initiative by SFBLF since mid 2014 to help in the fight against diabetes with a focus on youth. Initiatives address various challenges arising from: the relative absence of surveillance data for diabetes in youth; increasing appearance of mental illness comorbidities with diabetes in youth; the need for increased awareness and early intervention to reduce risk and help prevent or delay youth-onset Type 2 diabetes and complications for both Type 1 and Type 2; the need for improved transition processes to ensure continuity of care for youth living with diabetes.

Previous studies summary:

1. Our initial project, 'Count the Children' (2014 – 16), to find relevant surveillance data, included enlisting the aid of 2 major school boards representing over 80,000 students but was unsuccessful.
2. In the same period, at the urging of regional healthcare professionals (HCPs) attending our Annual Transition Symposium, and with the help of an international review team (Canada, Australia, United States) we developed an e-Learning course for HCPs and teachers, *Mental Health & Diabetes in Youth.* The course was accredited by the Australian Diabetes Educators Association (ADEA) as a CPD course for their members. (www.bantinglegacy.ca/e-learning) [2]
3. In 2016-17, using the same international team, we developed a *Type 2 Diabetes Risk Self-Assessment Questionnaire for Youth (8 – 18)* released as a pdf document in December 2016.

   This is not a 'predictive' tool but is intended to raise awareness and prompt further action. Subsequently, an online, self-scoring version, optimized for use with mobile devices, was developed and released in June 2017. (www.bantinglegacy.ca/diabetes-risk) [3]
4. In 2017, SFBLF also developed an e-Learning course, *Understanding Diabetes*, for youth and family members. The purpose of the course is to raise awareness and understanding of diabetes and related risks, to foster prevention and to help youth living with diabetes to prepare for the transition from paediatric to adult health care. (www.bantinglegacy.ca/understanding-diabetes) [4]
5. In light of experiences and data collection challenges, SFBLF determined that one way we could help would be to prepare a study to illustrate the surveillance challenges and data gaps and encourage a sharper and more timely focus by others on the search for improved surveillance insights. The resulting paper, *Youth Living with Diabetes and Comorbidities - Available Surveillance Data – A Status Assessment*, was released in September, 2017 (www.bantinglegacy.ca/count-the-children) [5]

Research focus

1. Scale and complexity of the problem space

1. What is the 'school-age' population by province and territory?
2. How many school boards and schools are involved by province and territory?
3. How many teachers and support staff are involved by province and territory?

2. Current policy status

1. What are the gaps in the existence and adoption of the required policies, protocols and expectations?
2. What examples are available at the provincial/territorial and school board levels?

3. Support requirements for each of T1 and T2 in a school setting

1. What are the comparative in-school support needs for students living with either T1 or T2?
2. To what extent do gender and age affect support needs?
3. Are there student cohorts requiring additional support?

4. Content and processes for in-school support programs

1. What is the basic content requirement for education of teachers and other school staff?
2. What is the estimated time requirement to deliver such an educational program?
3. What are the process requirements for ensuring continuity of informed support?
4. What are the relative roles and responsibilities of school personnel, students and parents?
5. What are the practical in-school impediments?

5. Support resources and tools currently available

1. What resources, tools and reference examples are available to assist stakeholder groups?
2. What needs to be done to make these resources more widely known and easily accessed?

6. Initiatives in other countries

1. What is the nature and status of 'diabetes at school' policies, protocols and expectations within Australia, the United Kingdom and the United States?
2. How does the Canadian reality compare?

Scope of this Study

Age Ranges * Children 5 – 9 * Adolescents 10 – 19	**Diseases/conditions** * T1 Diabetes * T2 Diabetes * Diabetes complications
Geography * Canada * Australia * United Kingdom * United States	**Data sources** * Federal/provincial/territorial/state government * National statistics organizations * National diabetes advocacy groups * Professional medical organizations * Children's hospitals * Universities and related research groups

Methodology

This study was undertaken as part of the SFBLF Research Intern Program and was conducted from May to September, 2018. Two recent graduates were engaged to do the data search. The project was led by Dr. Elisa Venier, MD, Director, SFBLF. Data analyses and report synthesis were completed by David Sadleir, Ph.D., P.Eng., President, SFBLF.

The starting point for the project was a review of the key paper published by the Canadian Paediatric Society (CPS) in November, 2017 that included a CPS assessment of the quality of extant in-school support policies for the 10 Canadian Provinces and 3 Territories [6]. The companion paper, detailing the expected content of an in-school support program, was also reviewed at the outset. [1].

In addition to Internet-based searches for data and relevant papers, early advice and guidance were sought from collaborative medical experts in Canada, Australia, United Kingdom and the USA.

Data were sought from national statistical organizations and from national diabetes-advocacy groups.

Once essential basic data were assembled, a separate communication was sent to the Premier, Ministers of Education and Ministers of Health in each of the 13 Canadian jurisdictions seeking their assistance.

The following were asked of all jurisdictions:

1. Please confirm our statistics for the number of school boards/authorities, schools, teachers and enrolled students in your province/territory.
2. Please provide any advice you may have for us in the context of this study.

In most, but not all cases, we asked:

3. Please help us understand the governance structure of your educational system as it applies to [applicable school types]. Each has a different spectrum of school types, e.g., public, catholic, aboriginal, Acadien, African, Francophone, Anglophone, private (funded), private (unfunded), independent.

For those yet to develop a policy:

4. Are there legislative plans in progress to table a policy to that end or if not, when might such a Bill be considered? In the interim, do you have a formal 'position statement' on the need for in-school support programs for students living with diabetes?

For those who have a policy:

5. What is the 'penetration' of your program? That is, how many of your school boards/authorities have prepared and implemented formal guidelines and an action plan for support of youth living with diabetes and how many of your schools have acted on the guidelines?

In all cases:

* We recommended inclusion of a stronger focus on Type 2 in the guidelines.
* We expressed our view that our school systems have the potential to make a pragmatic and constructive contribution to closing the diabetes prevalence 'knowledge gap' by the simple expedient of sharing basic data (without individual ID) for all registered students living with diabetes in their system. Such data are the essential starting point for a support program in any case.

2.0 Key Findings

Essential Requirements

1. In-school support programs are essential

Perhaps, the most important reason for seeking and sharing insights on the in-school support required and available for youth living with diabetes is that failure to do so makes it all too easy to ignore the problem. Youth living with diabetes face many day-to-day challenges.

In-school challenges – diabetes management

Students living with diabetes carry an additional developmental burden.

Self-managing diabetes is a 24/7 requirement, is not an easy task and lapses can lead to medical emergencies. The diabetes 'condition' is not a consistent, stable process.

Type 1 diabetes requires multiple daily injections of insulin to sustain life. Type 2 diabetes is 'progressive' but may be managed by diet, exercise and oral medication. Not all youth living with Type 2 diabetes are responsive to oral medication and may require insulin at the outset. To the extent insulin is required, there is very little difference for in-school support needs.

Both types require persistent attention to balancing blood glucose levels as part of preventing or at least delaying diabetes-related complications.

Students living with either type of diabetes are susceptible to hypoglycemia (a blood glucose level that is 'too low'). The risk is generally lower for those Type 2 cases who do not also require insulin.

Even mild or moderate hypoglycemia requires immediate attention to prevent severe hypoglycemia, which involves loss of consciousness or seizure. [1]

Attention to diet, physical activity, frequent blood glucose monitoring and the administration of insulin or oral medication are essential. Students living with diabetes need help to achieve and sustain their disease 'self-management' skills, including while in school.

Managing diabetes in youth is different from managing diabetes in adults. Younger students are likely to require adult help to deal with the daily demands. As students mature, they can achieve increasing levels of independence.

In-school support requires a standard policy framework for guidance but the actual accommodations must be individualized to reflect the disease condition and the developmental stage of the student. An Individual Care Plan (ICP) is required.

In-school challenges – Lack of understanding and empathy

Whether living with Type 1 or Type 2 diabetes, students at school need varying levels of support in order to be safe and to have a positive and full experience.

In-school support requires a collaborative, cooperative approach among all the stakeholders involved; the youth living with diabetes, their peers, parents, principals, teachers, support staff, public health agencies and other healthcare providers.

Informed support from teachers, appropriate accommodation to facilitate the need to adhere to their Individual Care Plan, and the respect and understanding of peers are essential.

Teachers and peer groups can help a student living with diabetes by understanding their challenges and helping them to successfully manage their condition through cooperation, collaboration and an inclusive response.

Absent such factors, students living with diabetes are subject to humiliation, increased anxiety and stress all of which can negatively impact the stability of their blood glucose levels, increase their risk of medical emergencies and dilute their motivation to learn.

The following quotes from winners of the 2018 SFBLF Education Awards who chose the "Diabetes at School" essay option illustrate the problem:

" .. my Mom created a binder with information in it for my teacher so they would be able to know what to do, who to call and what to watch for. I never did have a nurse with me at school. I didn't mind this, I even changed my site the very first time at school by myself. The part I didn't like was that I had to carry supplies with me and there were very few options other than a fanny pack or bag. I used a small shaving kit to carry everything in because I didn't have to wear it on me all the time as a reminder. Carrying this shaving kit around sometimes drew attention and teasing and people would refer to it as my 'purse'. I shook it off as my parents would remind me that people just didn't understand what it meant to live with Type 1." - T1 diagnosed at age 7

All it takes is one miscalculation or bit of bad timing for the life of a diabetic to come into serious risk. This is one of the many reasons why diabetes is difficult to manage at school. On top of all of the usual stressors found in high school, fear of bad grades and trying to fit in for example, there is the fear that those stressors might lower your blood sugar, making you less capable of thinking clearly and perhaps even incapacitating or killing you..... In my grade nine year, I had a teacher who did not have a firm grasp on technology and would mistake my insulin pump for a smartphone. This teacher would attempt to take my "phone" away from me, unknowingly separating me from the device sustaining my life. I told this teacher that in fact the device was an insulin pump, not a smartphone and that I needed it to survive and was allowed to keep it, although not without hearing the dissatisfaction of my teacher first. There were at least three separate instances of this teacher attempting to take away my insulin pump despite repeated explanations and reassurances from myself and my parents, requiring the school officials to resolve the issue. - T1 diagnosed at age 11

"The biggest struggle I had to face was the misunderstanding from teachers and classmates. I do not like to draw attention to myself. The only problem is, when you're having a low in the middle of a lesson, it is hard to not become the centre of attention when you must check your blood sugar and eat some snacks. I would sometimes become a distraction which would upset teachers and led to a lot of questions being asked of me such as, "ewww why won't your finger stop bleeding?" and, "I hate blood can't you go to the washroom and do that?" .... which made me beyond uncomfortable". - T1 diagnosed at age 13

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"Being in elementary school, I had never heard of diabetes before I was diagnosed; most of my classmates were in the same boat. Since everyone now knew I had diabetes, I got asked so many questions that I didn't want to answer because I was still in denial that the diabetes would go away or it was some kind of joke. My teacher knew better… she got me to stand in front of the class and explain what was going on with me medically and tell them that I was still the same person. I only knew so much and I didn't know what to tell them and what to leave out. Soon enough, I was being compared to a classmate's cat that had diabetes. I didn't enjoy being compared to an animal." - T1 diagnosed at age 11

Impact on parents

School staff need training to understand the diabetes condition, the daily implications for youth living with diabetes, the potential for medical emergencies and what action to take when emergencies occur.

Even with that support, the burden falls heavily on the parents to ensure their child's safety.

In a report published by the Canadian Paediatric Society (CPS), the Children's Hospital of Eastern Ontario (CHEO) and The Hospital for Sick Children (SickKids) in November 2017, it was found that nearly a third of Ontario parents were not confident that school staff could keep their child with type 1 diabetes safe. The report also showed that more than half of the school-aged children with diabetes did not have an Individual Care Plan [ICP], 21% of parents would reduce their child's insulin at school out of concern about hypoglycemia at least once a week, and almost 13% of parents would go to the school once a week to monitor their care. [7]

One student's teacher in Prince Edward Island "refused to have anything to do with his care," according to the student's mother. The teacher advised that the family pack the same lunch everyday thinking that would mean the same insulin dose. With a substitute teacher, the same student was not allowed to call his parents about insulin dosing and was told to run around the school when he had high blood sugar by another teacher. He was also repeatedly sent to get a snack by himself during hypoglycemia. [8]

In Alberta, a parent had to change jobs in order to ensure their child's safety at school. No staff members at the school would help to provide insulin injections. [9]

Similarly, in some rural areas of Saskatchewan, parents have had to quit work in order to support their child in school [10]

2. Standards are Essential

Standardized approaches in a given jurisdiction, whether provided as formal statutory policy or as recommended guidelines:

* ensure appropriate and consistent standards of safety, access and opportunity for all students living with diabetes.
* clearly define the roles and responsibilities of parents/guardians, educators, school administrators, school based personnel and students living with diabetes.
* establish 'familiarity and predictability' as well as continuity of care for a student moving from one level of the school system to the next or between schools due to family re-location.

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* ensure that student's Individual Care Plan (ICP) can be carried out as the student moves from year to year.
* ensure that parents have a clear understanding of what support is available to their child while they transition through the school system.
* facilitate more cost-effective training and development of training materials for school personnel.
* reduce the potential for confusion and uncertainty.

Variability across the provinces and territories, as well as variability within the public, private, independent and religious schools can create gaps in care.

3. Including Type 2 Diabetes is Essential

Most existing policies or guidelines properly reflect a dominant focus on Type 1. In light of increasing youth-onset Type 2, it is essential to include guidance regarding support for Type 2.

A growing demand – with uncertainties and risks

Diabetes is a worldwide pandemic among adults (20-79) with over 425 million living with diabetes as at the end of 2017. Another 382 million are living with pre-diabetes. [24]

No one knows how many youth are living with diabetes. In the 2017 World Diabetes Atlas, the International Diabetes Federation (IDF) estimated there are at least 1.1 million youth (0-19) living with Type 1. The number of Type 1 youth in Canada is estimated to be at least 30,000.

It is known that the prevalence of diabetes among youth is increasing each year in most countries of the world including Canada. The rise in Type 2 is due, in part, to a strong correlation with obesity or over-weight and an inactive life-style.

There is evidence to illustrate an inconsistent situation for age of onset. For Type 1, children younger than 5 and early school-aged children are "the fastest [growing] group of newly diagnosed cases" [1]. By contrast, other evidence identifies that for Type 2 diabetes, "the burden may fall increasingly on those age 15 – 19" [11].

Type 2 diabetes can remain invisible for a long time with the result that at time of diagnosis, cell damage can be in progress.

Recent research indicates that complications can occur earlier and be more severe for youth with Type 2 versus Type 1; and Type 2 in youth is a more severe disease than Type 2 in adults with an increased risk of early mortality the younger the onset of Type 2. [25]

As stated previously, both types require persistent attention to balancing blood glucose levels as part of preventing or at least delaying diabetes-related complications; and likewise, as part of avoiding hypoglycemia.

All students living with diabetes need help to achieve and sustain their disease 'self-management' skills, including while in school.

"Type 2 diabetes in childhood has the potential to become a global public health issue leading to serious health outcomes. More information …. is needed urgently"
IDF World Diabetes Atlas, 8th edition, Nov 2017 (p 60) [24]

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4. School Level Programs Bring Added Benefits

Raise awareness; foster prevention

Implementation of a diabetes support program in a school helps to raise general awareness of the risks for youth-onset Type 2 diabetes and provides a unique opportunity to contribute to the pressing need for effective prevention of youth-onset Type 2 diabetes in the general student population.

Contribute to closing the surveillance 'knowledge gap'

The identification/registration process, essential to an effective in-school support program, positions schools, boards, authorities and ministries to make a very significant, pragmatic contribution to closing the diabetes prevalence 'knowledge gap' by the simple expedient of sharing basic data (without individual ID) for all registered students living with diabetes in their system. Nova Scotia have a formal diabetes registry. British Columbia Ministry of Education have the ability to track students living with diabetes. NWT Ministry of Health & Social Services have similar capability but are unable to distinguish between Type 1 and Type 2.

Policy Status

5. Knowledge vs Action

Basic knowledge about the required processes, facilities and capabilities for effective, daily support of youth living with diabetes in school is well established. Selected examples of the essential program frameworks and resources are included later in this section.

Professional medical organizations and diabetes-specific advocacy groups, including 'concerned parents', and health care experts in major teaching hospitals have taken various initiatives to advance awareness of the need and offer guidance.

Recommended 'best practice' guidelines have been published by professional medical organizations and disease-specific advocacy groups such as the International Diabetes Federation and national diabetes organizations in Canada and several other countries including Australia, the United Kingdom and the United States.

'Templates' for Individual Care Plans and Consent Letters and other documentation tools exist.

Instructional materials to support the training required for school personnel, parents and affected students exist in many forms including multi-media presentations, videos and posters as do recommended curricula.

These reference aids may not be available in all of the languages required or with consideration of certain cultural expectations required for effective support of all potential communities and constituents.

The creation of standard policies or guidelines and implementation of required programs are lagging behind. Program implementation and tracking in Canada, and to varying extents in Australia, UK and USA, could be characterized as "top down inertia and very proactive bottom-up advocacy".

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6. Policy Creation

The relatively slow pace of standard, statutory policy creation results from several factors:

* belief that a standard policy is inappropriate and needs are better met by 'local' decision-makers
* belief that existing processes within the healthcare system are sufficient to meet the required support needs
* delayed action due to higher priority needs and/or limited resources
* probable unwillingness to act

In November 2017, the Canadian Paediatric Society (CPS) and the Canadian Paediatric Endocrine Group (CPEG) published a report summarizing existing in-school support policies and processes for each Province and Territory in Canada [6]. The report included a quality 'grade' assessment. [Table 2.1]

Based on an earlier 2015 paper [1], CPS/CPEG also recommended that, *"all provinces and territories establish a comprehensive policy on the management of type 1 diabetes in school, which should require schools to: develop an Individual Care Plan; identify and require at least two school personnel to be trained to provide support; ensure teachers of students with type 1 diabetes are trained to recognize and treat low blood sugar (hypoglycemia); provide a clean, safe area for diabetes self-care; provide accommodations in the event of hypoglycemia before/during an exam/test"*. [6]

Table 2.1. Policy Status and Quality at November 2017 [6]

Province/Territory	Policy	CPS Scorecard
British Columbia	Yes	Good
Alberta	No	Poor
Saskatchewan	No	Poor
Manitoba	No	Fair
Ontario	In progress	Fair
Quebec	Yes	Good
New Brunswick	Yes	Fair
Nova Scotia	Yes	Fair
Prince Edward Island	No	Poor
Newfoundland & Labrador	Yes	Fair
Yukon	No	Poor
Northwest Territories	No	Poor
Nunavut	No	Poor

CPS/CPEG also identified various specific actions required to improve existing policies including implementation of reporting/evaluation mechanisms and support for insulin administration.

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7. Policy vs Action and Coverage

There is clear national evidence that existence of a statutory 'policy' does not guarantee action and the absence of a statutory 'policy' has not inhibited some school boards/authorities from acting on their own. As well, the absence of a statutory policy does not mean there is an absence of recommended action from the dominant authority. For example:

* In British Columbia, a formal policy has been in place since 2015 but, "adherence to the Standards is not required by the Ministry of Education Compliance Program". [31 (e)]
* In Ontario, a statutory policy has been implemented as of September, 2018 [31 (h)] but some school boards have had their own 'policies' in place for several years. They are now being asked to align those policies with the new standards; e.g., Toronto DSB, Simcoe Muskoka Catholic DSB and several others.
* Manitoba does not have a statutory policy but does have very comprehensive guidelines that are integrated with a Unified Referral and Intake System (URIS). URIS requires identification of youth with needs for special health care support including for diabetes. That results in specific care plans for youth in school. [31 (d)]

Given the complexity of the governance process within the Canadian educational system, an existing Provincial/Territorial policy mandate or recommended guideline does not mean that all schools in the Province/Territory are included. For example, many First Nations schools remain the responsibility of the Federal Government. In some Provinces/Territories there are agreements that facilitate inclusion of such schools within a policy/guideline context. Similarly, many private and independent schools are not necessarily required to implement such policies or guidelines.

The following table was assembled from several data sources some of which were confirmed by the respective ministries:

Table 2.2: First Nations and Private or Independent Schools

Province/Territory	First Nations Schools	Private or Independent Schools
British Columbia	130	360
Alberta	62	725
Saskatchewan	n/a	n/a
Manitoba	52	62
Ontario	115	249
Quebec	34	29
New Brunswick	12	7
Nova Scotia	n/a	n/a
Prince Edward Island	n/a	5
Newfoundland & Labrador	3	6
Yukon	n/a	3
Northwest Territories	n/a	n/a
Nunavut	n/a	n/a

n/a = not available

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8. Current 'policy' implementation – Canada

Responses from Provinces with an existing policy (at November 2017)

The 5 Canadian Provinces with an existing in-school support policy were contacted at Cabinet level and requested to provide data on the number of boards/authorities and schools that have acted on the policy.

No responding Province or Territory provided the number of boards or authorities who have acted on available policy or guidelines and none identified how many schools had a support program in place. One acknowledged they did not have that data.

Nova Scotia report they, "*have continued to work on our 2010 guidelines and have a draft version (2018), which has incorporated many of the suggestions from the Pediatric Society*". In addition, Nova Scotia have, "*Student Health Partnership (SHP) Nurses in place in seven of our Regional Centres for Education. The SHP Nurses are responsible for working with the school teams, the families, the student and the health care providers in the regional area, to coordinate appropriate support and staff training, as detailed in the Students Health Plan of Care (Diabetes)."*

With regard to an increased emphasis on Type 2, the Minister of Education and Early Childhood Development noted that, "*staff is exploring options in the Regional Centres for Education, through our healthy eating curriculum, to determine how to most effectively aid in the prevention of Type 2 Diabetes and to support students living with Type 2 Diabetes*." [31 (g)]

British Columbia reported that, "*The Ministry of Education recommends that all school districts implement the Standards, however adherence to the Standards is not required by the Ministry of Education Compliance Program".* They indicated they would discuss the request for inclusion of a stronger emphasis on Type 2 as part of a cross-ministry and Child Health BC review of current guidelines [31 (e)].

Newfoundland & Labrador **"**h*as a reciprocal arrangement with the Nunatsiavut Government which allows Inuit students to attend Newfoundland and Labrador public schools. EECD has recently implemented a self-identification process for Indigenous Students. Further data on this will be available after the 2018-19 school year."* The Minister also advised that as part of their regular review of the guidelines, they would consider including a stronger emphasis on Type 2. [31 (a)]

No response was received from Quebec or New Brunswick

Responses from Provinces/Territories without a policy (at November 2017)

The 8 remaining Provinces and Territories without a policy were each contacted at Cabinet level and asked if plans were in progress to develop such a policy and if not, when might that happen and in the interim, do they have a formal position statement on the need for in-school support programs for diabetes.

Ontario implemented a policy applicable to selected 'prevalent medical conditions' including diabetes in September 2018. [31 (h)] [32 (g)]

Prince Edward Island has developed *Guidelines for Diabetes Management in Schools* and this document will be released in the Fall of 2018. [31 (f)]

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Saskatchewan will adhere to its existing 'needs based service delivery' model reflecting their belief that flexibility for local authorities to establish their policies and programs is the correct approach. [31 (c)]. However, the Saskatchewan School Board Association has developed *Guidelines for Life-Threatening Conditions* [32 (f)]

A 2008 private members bill to establish in-school support for youth living with diabetes in **Manitoba** was defeated. Based on exchanges with the MLA who tabled that bill, it is possible that such a bill may be reconsidered in the future. [31 (d)] Manitoba does have very comprehensive guidelines that are integrated with a Unified Referral and Intake System (URIS). URIS requires identification of youth with needs for special health care support including for diabetes. That results in specific care plans for youth in school. [31 (d)]

Northwest Territories have a philosophy similar to that of Saskatchewan and supported with a *Student Handbook for Success* reflecting "a commitment for in-school supports for all students living with medical conditions" [31 (b)].

Alberta also has an approach similar to Saskatchewan and NWT but advise they are, "*working with health colleagues to provide common and consistent expectations .. to support students with medical conditions .. including those with Type 1 diabetes*" [31 (i)]

In all cases of existing or new Guidelines, there are varying degrees of process integration with the healthcare system.

No response was received from Yukon or Nunavut.

Summary of Responses

The extent of diabetes support in schools varies across Canada from province to province and among school boards within a province/territory.

Of the 13 provinces and territories in Canada, 6 provinces have 'policies', 3 have guidelines and 1 territory has guidelines for in-school support of youth living with diabetes. (Sept 2018). Some of these apply also to other 'prevalent medical conditions' (e.g., Ontario and Manitoba). (Table 2.3).

Despite the absence of provincial level guidelines, some school boards have proceeded on their own to develop the required policies. Complete data on the numbers who have done so are not available. However, the Diabetes Advocacy initiative [12] have assembled a significant set of links to many school board 'policy' documents that are either diabetes-specific or related thereto.

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Table 2.3: Policy or Guideline Status Summary at September 2018

Province/Territory	Policy	Guidelines	Ministry Comments
British Columbia	Yes		2015 policy - compliance is not required
Alberta	No		working with Health colleagues to establish common expectations (2018)
Saskatchewan		Yes	philosophy is a "needs-based service delivery model" Sask School Boards Assoc has Guidelines for "Life-Threatening Conditions"
Manitoba		Yes	comprehensive guidelines integrated with healthcare system (URIS)
Ontario	Yes		2018 policy applies to selected 'Prevalent Medical Conditions' including diabetes
Quebec	Yes		no response
New Brunswick	Yes		no response
Nova Scotia	Yes		2010 Policy is being revised/improved
Prince Edward Island		Yes	*Guidelines for Diabetes Management in Schools* being released Fall 2018
Newfoundland & Labrador	Yes		2014 *Guidelines for Diabetes Management in Schools*
Yukon	No		no response
Northwest Territories		Yes	2006 *Student Handbook for Success* reflects "commitment for in-school supports for all students living with medical conditions" Regions and schools expected to develop specific policies
Nunavut	No		no response

Assuming all schools, in the 10 provinces or territories with either a policy or guidelines, have acted, or will act, on the guidance, that would result in 277 or 41% of boards/authorities and 10,482 or 80% of schools involved in theory.

9. 'National policy' status – Canada Compared

None of the 4 countries examined, Canada, Australia, United Kingdom, United States, has a nationally 'consistent' approach to in-school support of children/youth living with diabetes but as of September 4, 2018, Australia is moving to change that. In some respects, this reflects the decentralized responsibilities for education. All of the countries, however, have various laws and statutes that define required 'rights' for people living with 'disabilities' and for some, certain 'disease-specific' support requirements. Statutory support at the national level is greater in Australia, UK and USA than in Canada.

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On September 4, 2018, the Minister for Health, Australia announced funding of $6 million over two years to develop a "*nationally consistent training program for teachers and school staff including the safe administration of insulin, hypoglycemia management and "normalizing" diabetes in schools so the students are not stigmatized*." [27 b]

Canada

"Under the Canadian Charter of Rights and Freedoms, every citizen, including people with disabilities, has the right to equal protection and benefit without discrimination**.** [14] In March 2010, Canada's Parliament ratified the United Nations *Convention on the Rights of Persons with Disabilities*. All provinces and territories are now bound by the convention which, among other rights, ensures that "effective individualized support measures are provided in environments that maximize academic and social development, consistent with the goal of full inclusion. [15]. Legally, schools must reasonably accommodate the special needs of children, including students with diabetes" [extract from [1]

Australia

The *Diabetes in Schools Report 2017* calls for a nationally consistent approach to diabetes support in schools:

"Under the Federal Government's Education and Care Services National Law and supporting Regulations, all services providing or intending to provide education and care must have a diabetes policy.

Currently, there is no nationally consistent approach to the support of children and young people with diabetes in schools and preschools.

Some states and territories have a specific policy regarding aspects of diabetes support in schools, some do not. Some states and territories mandate the need for schools to have individual diabetes management plans in place for children and young people with diabetes, some do not.

In some states and territories, individual health professionals and local diabetes organisations have attempted to address diabetes training needed for teachers and schools, but this is variable and not supported with sufficient funding. There is also variability across and within the public, private and religious school sectors." [16 p.2 & 3]

This document also includes a very specific list of Recommendations directed at state departments of education and schools for Policies and Planning, Training Support, Access to Diabetes Training, Reducing Stigma and Discrimination. [16, p. 8 & 9]

United Kingdom

There are several laws and statutes in each of England, Scotland, Wales and Northern Ireland relating to looking after children with diabetes in school. A list with summary descriptions can be found on the Diabetes UK web site. [17]

Supporting pupils at school with medical conditions is one UK example:
"This document contains both statutory guidance and non-statutory advice. The non-statutory advice is presented in text boxes.

The statutory guidance applies to any 'appropriate authority' as defined in section 100 of the Children and Families Act 2014. That means governing bodies in the case of maintained schools,

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proprietors in the case of academies and management committees in the case of pupil referral units (PRUs).

'Appropriate authorities' must have regard to this guidance when carrying out their statutory duty to make arrangements to support pupils at school with medical conditions. The guidance also applies to activities taking place off-site as part of normal educational activities. In this document, references to schools are taken to include academies and PRUs and references to governing bodies include proprietors in academies and management committees of PRUs. Further advice, where provided, is based on good practice but is non-statutory.

Early years settings should continue to apply the Statutory Framework for the Early Years Foundation Stage.

This document replaces an earlier version of this guidance published in September 2014. Previous guidance on managing medicines in schools and early years settings was published in March 2005.

This document will be reviewed in autumn 2017." [18]

United States - Federal Laws

"Federal laws protect the rights of children with disabilities – such as diabetes. Students with diabetes have the right to enroll and participate in school, just like their classmates. This means they have the right to receive the diabetes care they need to be safe and have the same educational opportunities as students without diabetes have. There are several important federal laws:

Section 504 of the Rehabilitation Act of 1973 (Section 504) provides important protections for students with diabetes attending public school or private and religious schools that receive federal financial assistance. That is, it applies to the vast majority of students. Section 504 prohibits schools from treating children with disabilities—like diabetes—unfairly. It gives children with disabilities the right to the care they need to be safe and fully participate. Students do not need to have any problems with learning in order to be protected by Section 504. Covered schools are required to provide reasonable services and modifications that should be documented in a Section 504 Plan. The best way to protect your child under this law is to put in place a Section 504 Plan.

The Americans with Disabilities Act (ADA) is a federal law that prohibits discrimination against individuals with disabilities, including diabetes. It has provisions very similar to Section 504. It applies to public and private schools, preschools, child care centers, and camps except those run by religious institutions.

Under *The Individuals with Disabilities Education Act (IDEA),* the federal government gives money to state and local education agencies to provide special education services to some children with certain disabilities. In order to get services, the student's disability must harm his or her ability to learn. Some children with diabetes qualify for special education services under IDEA, especially if they have another disability, such as autism, or another learning disability. Some children may qualify on the basis of diabetes alone. Students who qualify will have an Individualized Education Program (IEP) that sets out what the school is going to do to meet the child's individual needs.

The Family and Medical Leave Act (FMLA) requires employers to give their employees up to 12 weeks of leave without pay due to a health condition each year. It can be used to take care of

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children with diabetes. For example, a parent/guardian might use it if his/her child is hospitalized, or for doctor's appointments ….. " [19]

United States - State Law

"Some states give more protections, or give helpful guidance on how to best provide diabetes care in the school setting. Sometimes, state rules are complicated and make it unclear about who can provide care at school. Remember that your child still has rights under federal law, regardless of what state law says." [20]. ADA provides a search tool to help find specific laws by state.

Implementation Challenges

10. Achieving universal in-school support is difficult

Governance complexity in the educational system

Across Canada, there are hundreds of school 'boards or authorities' providing governance and oversight for thousands of schools and several hundred thousand school personnel.

There is a wide array of school 'board and authority' types. For example, many provinces have a dominant traditional structure of elected school boards for 'public' schools and school boards for 'separate' (Catholic) schools. However, to that must be added private schools of various types, charter schools, aboriginal schools, and schools governed directly by a provincial ministry. Many aboriginal schools are still directed by the Federal government.

A policy directive issued by a government of a Provincial or Territory may not apply with equal force, or at all, to all schools within the geographic boundary.

Multiple stakeholders at the school level

Apart from the student living with diabetes, there is a wide array of essential stakeholders at the school level: parents, principals, teachers, teaching assistants, administrative and support staff, student peers and possibly nurses and other healthcare providers.

That creates an equally wide array of differing viewpoints, a host of communication and administrative challenges and a significant 'awareness and educational' task. The latter can be amplified in schools where delivery of support requires attention to the cultural norms and expectations of the community.

Systemic impediments

Senior policy-makers at all levels face competing demands for attention. Absent compelling evidence and sufficient 'noise in the system' it is all too easy to relegate in-school support for youth living with diabetes to a lower priority.

Teachers already face a long list of requirements and expectations in their role as educators. The need to acquire specialized knowledge about diabetes, what 'permissions' are required and what to do in the case of emergencies simply adds to that workload. Accommodating the needs of students living with diabetes can result in class time disruptions. School personnel may have uninformed concerns about liability arising from assisting a youth living with diabetes.

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Table 2.4 – Implementation Complexity

Stakeholder	Action
Province/Territory	* Policy creation * Funding * Progress tracking
Boards/Authorities	* Policy creation or adaptation * Funding * Progress tracking
Leadership – individual schools	* Policy adaptation * Program implementation
School personnel - general	* Awareness training
School personnel – specific program responsibilities	* Disease-specific training * Administrative support
Parents and students living with diabetes	* Individual Care Plan (ICP) * Medical identification * Proactive communication
Student peers	* Awareness training
Public health agencies and other healthcare providers	* Training support * ICP preparation help

Cost and time

There are implementation and administrative costs associated with an in-school support program for youth living with diabetes. Time must be set aside to train teachers and staff and to meet with parents to discuss individual support needs. Creating and maintaining records of affected students and their Individual Care Plan and ensuring that information is readily accessible to all who 'need to know' requires an effective administrative process. Finding time in the curriculum to educate peers about the realities of diabetes and the need for their cooperation and empathy is yet another demand on available teaching time. These demands require the formal support of 'board level' policies and adequate funding.

Sustainability

Implementing an in-school support program is not a 'one time' event**.** New teaching and administrative staff need training and the existing team need a 'refresher' from time-to-time. The Individual Care Plans can change as the student matures and need to be kept up-to-date.

Liability protection for supporting personnel – Canada

[Liability laws are complex. No attempt was made to determine such legislation for other countries]

Legal protection and rights are of concern for two stakeholder groups: Parents/students living with diabetes (entitlement to support under law) and school personnel who are involved in program delivery (personal liability arising from providing support).

In Canada, school employees will not be found liable if they take reasonable steps to assist a student with diabetes in an emergency situation [13].

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The Ontario policy, for example, includes the following [32 (g)]:

"*In 2001, the Ontario government passed the Good Samaritan Act to protect individuals from liability with respect to voluntary emergency medical or first-aid services. Subsections 2(1) and (2) of this act state the following with regard to individuals:*

2. (1) Despite the rules of common law, a person described in subsection (2) who voluntarily and without reasonable expectation of compensation or reward provides the services described in that subsection is not liable for damages that result from the person's negligence in acting or failing to act while providing the services, unless it is established that the damages were caused by the gross negligence of the person.

(2) Subsection (1) applies to, … (b) an individual … who provides emergency first aid assistance to a person who is ill, injured or unconscious as a result of an accident or other emergency, if the individual provides the assistance at the immediate scene of the accident or emergency".

11. Scale of the problem space – Canada Compared

[Each Canadian Province and Territory was contacted at Cabinet level to confirm the statistics for boards, schools, school personnel and enrolled students in their jurisdiction. To the extent responses were receive, the statistics assembled from other sources were adjusted]

This Report is focused on 'school age children/youth' age 5 – 19. For 'Attending and Non-attending' Canadian children/youth in that age range, Stat Can report the following numbers (as at July 1, 2017):

Table 2.5 School age children/youth by Province/Territory

	5-9 years	10-14 years	15-19 years	Total
Canada	2,003,143	1,920898	2,056,445	**5,980486**
Newfoundland & Labrador	25,935	26,290	26,941	79,166
Prince Edward Island	8,542	8,309	8,650	25,501
Nova Scotia	45,417	44,744	51,743	141,904
New Brunswick	37,995	38,033	40,633	116,661
Quebec	458,745	410,865	415,851	1,285,461
Ontario	749,339	752,339	835,465	2,337,143
Manitoba	83,847	80,596	86,523	250,966
Saskatchewan	76,539	70,460	70,545	217,544
Alberta	271,516	245,953	240,620	758,089
British Columbia	235,454	234,088	271,771	741,313
Yukon	2,211	1,890	2,170	6,271
Northwest Territories	3,604	2,961	2,478	9,043
Nunavut	3,999	3,370	3,055	10,424

https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000501

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Table 2.6 below is based on statistics from several sources some of which have been confirmed by the respective ministries. It illustrates the scale of the potential implementation challenge, at least as an order of magnitude. Separate data tables for each Province and Territory are included in Appendix A.

Table 2.6 Canadian Boards, Schools, Teachers, Students

Province/Territory	Boards	Schools	Teachers	Students
British Columbia	60	2,056	33,454	659,000
Alberta	375	2,479	44,000	717,376
Saskatchewan	28	771	12,743	187,719
Manitoba	39	803	14,667	203,462
Ontario	83	5,241	141,194	2,020,700
Quebec	38	534	67,359	1,285,463
New Brunswick	7	314	6,756	116,661
Nova Scotia	8	376	7,638	117,178
Prince Edward Island	2	68	1,440	25,501
Newfoundland & Labrador	2	270	5,310	67,395
Yukon	2	28	465	6,271
Northwest Territories	10	49	790	8,410
Nunavut	26	43	742	10,424
TOTAL	**680**	**13,032**	**336,557**	**5,425,560**

Note: the number of 'boards/authorities' in Alberta is unusually large in comparison to other regions and includes many 'authorities' who each may govern only a small number of schools. The public and separate school boards in Alberta comprise 59 'boards' and the majority of schools 1,889. Of the remaining 500 Alberta schools, half are 'private'.

The provinces with the largest number of schools are Ontario (5,241), Alberta (2,479) and British Columbia (2,056). All other provinces and territories combined have a total of 3,256 schools, ranging from a low in Nunavut of 43 to 803 in Manitoba.

Table 2.7 Canadian Boards, Schools, School Personnel, Students

Boards/Authorities	Schools	School Personnel	Students
> 680	> 13,000	> 500,000	> 5.4 million

Notes:

1. Multiple data sources were used to assemble these numbers. Inconsistent definitions and data dates dictated order of magnitude estimates.
2. Definition of a 'board' or 'authority' differs by province. Larger provinces like Ontario have many schools under one board. Small provinces/territories may have less schools per board/district/division. However, Alberta has the largest number of school 'authorities'.
3. 'Schools' include K-12 of English, Francophone, and First Nations but may not include all independent and/or 'private' schools.

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4. 'Personnel' includes teachers, teaching assistants and other school support staff. Of this number, approximately 337,000 are teachers or are engaged in some aspect of teaching.

The scale of the problem space for Australia, in statistical terms, is similar to that of Canada. The United Kingdom faces a larger quantitative challenge and the United States has the largest.

Table 2.8 Relative scale of the implementation challenge

Parameter	Canada	Australia	United Kingdom	United States
Provinces/Territories/ States/ Regions	10 Provinces 3 Territories	6 States 2 Territories	4 Countries	51 States (incl DC) 14 Territories
With policies or guidelines at September 2018	9 Provinces, 1 Territory	3 States	unable to identify	36 States
Boards/authorities	> 680	not avail	not avail	> 13,600
Schools	> 13,000	> 9,400	> 32,000	> 132,000
School personnel	> 500,000	> 400,000	> 700,000	> 6.3 million
Students	> 5.4 million	> 3.8 million	> 10 million	> 56 million

Advocacy

12. School Level Programs - National Champions

In all 4 countries, there is a very wide array of guidance and support material for in-school programs. Underpinning all of that are recommended 'country-specific' guidelines from medical experts.

In Canada, the 'Diabetes at School' web site initiative, led by the Canadian Paediatric Society and the Canadian Paediatric Endocrine Group, is the primary source for such material.

In Australia, the UK and the US, policy advocacy leadership and development of information and training materials for the implementation of in-school support programs are being provided by Diabetes Australia, Diabetes UK and the American Diabetes Association (ADA) respectively.

In all 4 countries, there are also examples of persistent initiatives undertaken by 'concerned parents'. Some parental groups and even individuals have created reference web sites to help families and youth. They also use various 'social media' approaches to amplify their advocacy efforts.

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Canada – CPS & CPEG

The Diabetes@School website was created by the Canadian Paediatric Society, in partnership with Diabetes Canada, the Canadian Paediatric Endocrine Group, and a team of health professionals and parents.

It includes training resources for use by educators, school boards, and parents of children with diabetes. Topics include understanding blood sugars, food and insulin, physical activity and type 1 diabetes, and communication between home and school.

Training resources include videos and posters and are grouped in 'levels', Awareness, Literacy, and Expertise, in recognition of the different requirements depending on the level of engagement with youth living with diabetes.

The site also features a template for an Individual Care Plan, which details all aspects of a student's diabetes care while at school. [26]

Australia - Diabetes Australia

The Diabetes Australia 'School' web page includes a link to the Diabetes in School 2017 Report cited above as well as information for teachers, a statement on 'Duty of Care', links to individual state and territory diabetes offices as sources for information about support strategies.

Mastering Diabetes is a new NDSS resource to help families, teachers and paediatric endocrinology teams. It has been designed to help teachers and families support children with type 1 diabetes at school and preschool, helping children to learn, grow and have fun. It is available as a PDF or an eBook.

A summary list (with links) of resources created by Queensland, Victoria and New South Wales is included as is a link to a dedicated website developed by NDSS for 16-25 year olds living with diabetes. A telephone Helpline for all is operated by NDSS. [27]

United Kingdom - Diabetes UK

The Diabetes UK 'Diabetes in Schools' web page includes information for parents and schools and a wealth of resources that can be downloaded.

They also coordinate a 'Make the Grade' advocacy campaign across the UK. The campaign includes an innovative, 'Award your School' program that lists schools that meet the expectations of the guidelines. School names, grouped by Region, are published on their Honour Wall supported with an interactive map and they provide a form for nominations.

Diabetes UK also chairs the Health Conditions in Schools Alliance made up of over 30 organizations, including charities, healthcare professionals and trade unions who work collaboratively to make sure children with health conditions get the care they need in school. http://medicalconditionsatschool.org.uk

Diabetes UK provides a 'Helpline' (telephone and email) for parents who are concerned about the treatment their student is receiving in school. There is a separate helpline for Scotland. [28]

United States – American Diabetes Association (ADA)

The ADA "Safe at Schools" web site includes a wealth of information and resources grouped for 'Parents and Kids' and 'Schools'.

The 'Parents and Kids' section includes Legal Protections, Position Statements and Resources for Care at School, Resolving Challenges, Written Care Plans and Special Considerations (e.g. field trips and other off-site events, preparation for emergency 'lockdown' situations)

Information and resources for 'Schools' include Training Resources, FAQs for

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Schools, Diabetes Care Tasks at School, Tips for Teachers and Tips for School Nurses.

The ADA also operate a proactive "Safe at Schools Campaign" that includes encouraging/coordinating advocates across the country to present workshops and press for improvements in school support for students living with diabetes.

Their website also includes an 'update' section that lists recent 'victories' in terms of new states who have issued a policy and the outcomes of various 'lawsuits' arising as a result of action against some states by parents and/or ADA for discrimination and/or failure to provide support.

The site includes a helpful search feature that facilitates checking the 'policy' status for any state.

There is a general telephone Helpline available Mon – Fri 8:30am – 8:00pm. [29]

13. Other Advocacy Examples

Canada

There are many other organizations with websites that provide links to helpful resources and guidance regarding support for diabetes at school including children's hospitals and initiatives by parents of youth living with diabetes; for example, two parental initiatives:

* *Waltzing the Dragon* – operated by a Mother of a youth living with Type 1 diabetes [21]
* *Diabetes Advocacy* – operated by a Mother of a youth living with Type 1 diabetes [12]

International

Many other countries have developed support resources for diabetes at school as have both IDF and JDRF International:

* **International Diabetes Federation (IDF)**
  The KiDS project is an education program designed for the following target groups: Teachers (grades 1-9); School nurses and school staff; School students (aged 6-14 years); Parents; Policy makers and Government officials.

  The KiDS information pack is divided in two sections: the first section is focused on type 1 diabetes and the needs of children in school, offering both guidelines for the management of children with diabetes and a sample diabetes management plan; the second section is focused on guidelines for a healthy lifestyle to prevent type 2 diabetes. [22]

* **Juvenile Diabetes Research Foundation (JDRF)**
  The JDRF School Advisory Kit can be downloaded from their website. [23]

14. Policy and Program Content

Policy Content Requirements - Consensus

Among the 4 countries examined, there is strong similarity in the identification of fundamentals that need to be included in overall 'policy' documents issued by provincial, territorial, state or other over-arching government organizations. Similar commonality applies for recommended content of Board/Authority level policies and for the details essential to an effective in-school support program. [26], [27], [28], [29]

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Policy documents need to set a 'tone' as well as establish a 'mandate' and need to be accompanied by identification of resources available to facilitate policy implementation.

Setting a 'tone' should emphasize the requirement to nurture an inclusive, supportive and empathetic response by staff, teachers, and peers of students living with diabetes; emphasize the need for respect of the student's privacy; and provide clarity regarding liability of school personnel who act to assist a student living with diabetes.

Overall policy documents also need to require creation of an Individual Care Plan for each student affected, a school-wide Diabetes Management Plan, engagement of local/regional healthcare providers, a regular status reporting process and a clear statement of relative roles and responsibilities of stakeholders.

Policy statements at the Board/Authority level need to reflect the particular context including due regard for local needs, geographical realities, cultural aspects, and the collective resources of the schools and communities.

A Board/Authority level policy document also might include, for convenience, definitions of selected medical terminology and perhaps, summary charts of Causes, Symptoms and Treatments for both high and low blood glucose events; or at least, a statement requiring that such easy reference charts be prepared and made available to all involved within a school.

School Level Program Content

The Canadian Paediatric Society (CPS) and the Canadian Paediatric Endocrine Group (CPEG) recommend, "*that all in-school support programs require an Individual Care Plan (ICP); identify and require at least two school personnel to be trained to provide support; ensure teachers of students with diabetes are trained to recognize and treat low blood sugar (hypoglycemia); provide a clean, safe area for diabetes self-care; provide accommodations in the event of hypoglycemia before/during an exam/test.*" [1]

Policies are valuable only if supported by action

The creation of an in-school policy by a government ministry and the adoption/adaptation of such a policy by a school board/authority are essential first steps.

Translating policy into practical, on-going action requires commitment of time and resources at the individual school level.

Schools need help from many directions. Community-based health agencies and other healthcare providers are required to support the training needs and in some cases, to provide in-school program operations support. Parents and their students living with diabetes need to cooperate and communicate. Knowledgeable experts need to develop supporting instructional material, 'advertise' its existence and ensure easy access.

Essential elements of an in-school program

As with views on the required content for policy documents, a broad consensus exists on the details essential for an effective in-school support program.

An individual school program requires considerable initial preparation and training, on-going processes, a need for periodic renewal and updating, maintenance of effective administrative processes, and continuing attention to facilitating communications with the students affected and their parents.

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Perhaps obvious, but the most fundamental step has to be the ability to identify students in the school who are living with diabetes and then, ensure their inclusion in the program.

An In-school Program Checklist

Program preparation:

a. create the School Diabetes Management Plan
b. assemble essential reference documents such as Consent Forms and Individual Care Plan templates
c. establish administrative support processes and responsibilities
d. designate staff and teachers who will have special support roles and will require greater training. [at least 2 and with consideration for backup during absences]
e. locate qualified trainers, establish a training schedule and identify required participants.
f. establish a process for initial identification of an affected student

On-going support processes:

a. ensure teachers and all support staff are trained to recognize low blood sugar events (hypoglycemia) and how to treat it or quickly find the help to do so.
b. establish procedures for 'non-emergency' and 'emergency' (life-threatening) events
c. establish procedures for field trips and other 'off-site' events
d. assemble and keep current the Individual Care Plans (ICP)
e. ensure up-to-date ICPs are distributed and in places where they need to be
f. facilitate essential discussions with parents and their student
g. schedule periodic, at least annual, training refreshers for current and new staff.

Typical 'accommodations' required for support of students living with diabetes:

a. recognition that 'self-management' capability varies with age and elapsed time since diagnosis
b. a clean, safe area for diabetes self-care including storage of their medications and medical supplies
c. appropriate supervision to ensure students eat on time and in full
d. allowing students to keep, and use as required, a diabetes emergency kit at their desk including a blood glucose meter, fast-acting sugar source for hypoglycemia treatment, insulin injection kit and snacks
e. recognition that similar support is required during examinations, tests and quizzes and that a hypoglycemic event during such periods requires additional time to recover cognitive ability
f. recognition that affected students should not be penalized for absences due to medical appointments

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3.0 Resources

Support Resources and Tools - Selected

There are hundreds of helpful resources and tools to support in-school programs ranging from policy creation to training for stakeholders and including example 'templates', videos and posters.

In this section are selected examples with brief descriptions and identification of the intended stakeholder group. Many of these resources contain information of value to all; namely, Policy Makers, School Personnel, Parents and Students.

The tables include a brief summary of resource content.

In addition, a few links are provided for those who need to understand the basics about diabetes, e.g., diabetes types and symptoms, the demands of self-management of diabetes, the particular threats of hypoglycemia and hyperglycemia.

The sources provided below are drawn from:

* Professional medical organizations
* Diabetes advocacy organizations
* Major Canadian children's hospitals
* SFBLF e-Learning courses and tools

1. Resources for Policy Makers

Existing Provincial/Territorial Policy Documents available online

(a) **New Brunswick** (January 2008) *A Handbook for Type 1 Diabetes Management in Schools*
https://www2.gnb.ca/content/dam/gnb/Departments/ed/pdf/K12/policies-politiques/e/704AH.pdf

(b) **Nova Scotia** (2010) the 2010 Guidelines are under revision and are not currently accessible online. (September 2018)

(c) **Quebec** (2012) *School intervention protocol for students with Type 1 Diabetes*
http://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-215-01A.pdf

(d) **Newfoundland and Labrador** (2014) *Guidelines for Diabetes Management in Schools*
https://www.ed.gov.nl.ca/edu/k12/studentsupportservices/GuidelinesforDiabetesManagementinSchools.pdf

(e) **British Columbia** (March 2015) *Provincial Standards: Supporting Students with Type 1 Diabetes in the School Setting*
https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/healthyschools/diabetes/diabetes_support_in_school_settings.pdf

(f) **Saskatchewan** School Boards Association (September 2015) *Managing Life-Threatening Conditions: Guidelines for Saskatchewan School Divisions*
https://saskschoolboards.ca/wp-content/uploads/Life-Threatening-Conditions-Policy-Advisory-2015.pdf

(g) **Ontario** (2018) *Supporting Children and Students with Prevalent Medical Conditions (Anaphylaxis, Asthma, Diabetes, and/or Epilepsy) in Schools*
http://www.edu.gov.on.ca/extra/eng/ppm/ppm161.pdf

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Evidence-Based Guidelines

CPS and CPEG recommended minimum standards for supervision/care for T1D
https://www.cps.ca/en/documents/position/type-1-diabetes-in-school

Diabetes Canada Guidelines for the care of Students Living with Diabetes at School
http://diabetes.ca/getmedia/312be19ce53e4a31a848e7f094a2f7b2/Diabetes_Canada_KWDIS_Guidelines.pdf.aspx

Sample School Board Policy Documents

Waterloo Catholic District School Board (2004) https://www.wcdsb.ca/wp-content/uploads/sites/36/2017/04/APH015.pdf

Toronto District School Board (2010) http://ppf.tdsb.on.ca/uploads/files/live/98/1764.pdf

Halifax Regional School Board – Medical Conditions (2017)
https://www.hrce.ca/sites/default/files/hrsb/c.011-medical-conditions-assigned-healthcare-needs.pdf

School District No.36, Surrey BC, (June 2018)
https://www.surreyschools.ca/departments/SECT/PoliciesRegulations/section_9000/Documents/9610.3%20Regulation.pdf#search=diabetes

2. Resources for School Personnel

School staff should be educated, equipped and available to support students living with diabetes. There are many excellent resources to help, including:

Canadian Resources

Diabetes at School: A resource for families, schools and caregivers to help school-aged children with type 1 diabetes. Includes a video series that makes it easy to learn about how to support students with type 1 diabetes in school.
www.diabetesatschool.ca

B.C. Children's Hospital: Online module for educators: Taking Care of Diabetes at School
http://www.bcchildrens.ca/health-professionals/learning-development/resources/diabetes-at-school

B.C. Ministry of Education: Forms, plans, posters and more
https://www2.gov.bc.ca/gov/content/education-training/administration/kindergarten-to-grade-12/school-health/diabetes

IWK Health Centre Pediatric Diabetes Team: Online video training modules for teachers.
http://www.iwk.nshealth.ca/page/video-diabetes-school

Diabetes Québec: Diabetes at school
http://www.diabete.qc.ca/en/understand-diabetes/practice/school-and-daycare/diabetes-at-school

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International Resources

Diabetes Australia – Mastering Diabetes – help for teachers and paediatric teams
https://static.diabetesaustralia.com.au/s/fileassets/diabetes-australia/f3133e0a-eb9a-45bf-900f-d98710a9ce0a.pdf

Diabetes UK – Diabetes in schools – information for teachers and staff
https://www.diabetes.org.uk/guide-to-diabetes/your-child-and-diabetes/schools/school-staff

National Diabetes Education Program (USA): Helping the Student with Diabetes Succeed – A Guide for Personnel
https://www.niddk.nih.gov/health-information/communication-programs/ndep/health-professionals/helping-student-diabetes-succeed-guide-school-personnel

International Diabetes Federation: Kids and Diabetes in School (KiDS) program includes an information package in 13 languages, suitable for downloading and printing, as well as an app. Each product has sections for parents of children with diabetes, parents in general, students (aged 6-14), and teachers (grades 1 to 9).
https://www.idf.org/our-activities/education/kids-project.html

3.0 Resources for Parents and Families

Resources to help in school

Diabetes at School: A resource for families, schools and caregivers to help school-aged children with type 1 diabetes.
https://www.diabetesatschool.ca/parents/parents

Individual Care Plan – Contents and forms
* https://www.diabetesatschool.ca/tools/individual-care-plan
* https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/healthyschools/diabetes/diabetes_support_plan.pdf

The Hospital for Sick Children – Diabetes in the classroom – what to expect, what to communicate to the school, physical activity and field trips and more
https://www.aboutkidshealth.ca/Article?contentid=2517&language=English

The Hospital for Sick Children: Letter about diabetes for your child's teacher
https://www.aboutkidshealth.ca/Article?contentid=1149&language=English

Juvenile Diabetes Research Foundation (JDRF): School Advisory Toolkit for Families (Includes sample diabetes management plan)
https://www.jdrf.ca/resources/learn/toddler-schoolage/

Canadian MedicAlert Foundation: No Child Without - Free membership in MedicAlert (including bracelet, to children 4 to 14 years)
https://www.medicalert.ca/no-child-without

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General information about diabetes

SFBLF – *Understanding Diabetes* free e-Learning course

The purpose of the course is to raise awareness and understanding of diabetes and related risks, to foster prevention and to help youth living with diabetes to prepare for the transition from paediatric to adult health care.

www.bantinglegacy.ca/understanding-diabetes

SFBLF – Check Your Diabetes Risk

For youth age 8 – 18, who are not living with diabetes, there is a risk assessment questionnaire available as a pdf download or as an online 'self-scoring' version and there are links to risk questionnaires for adults

www.bantinglegacy.ca/diabetes-risk

SFBLF web site

The SFBLF web site has many educational resources about diabetes organized for

* Teachers and Students
* Parents and Youth

www.bantinglegacy.ca

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4.0 References

NOTE: All of the URL links included here are susceptible to web site revisions and updates and can be moved, archived or deleted by the website owner.

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[3] *Type 2 Diabetes Risk Self-Assessment Questionnaire for Youth (8 – 18)* Dec 2016, SFBLF. www.bantinglegacy.ca/diabetes-risk

[4] *Understanding Diabetes*, e-Learning July, 2017, SFBLF www.bantinglegacy.ca/understanding-diabetes

[5] *Youth Living with Diabetes and Comorbidities - Available Surveillance Data – A Status Assessment*, September, 2017, SFBLF www.bantinglegacy.ca/count-the-children

[6] *Are We Doing Enough?*, November 2017, CPS Prov/Terr policy status and rating https://www.cps.ca/en/status-report/management-of-type-1-diabetes-in-school

[7] *New data shows more needs to be done* .. CPS, Nov 16, 2017 https://www.cps.ca/en/media/new-data-shows-more-needs-to-be-done-to-keep-kids-with-diabetes-safe

[8] *Diabetes on Prince Edward Island, 2016 Report* (p.7) CDA, https://www.diabetes.ca/getmedia/3c8ff2f2-8d9f-4271-a051-407cbd4881f5/Diabetes-on-PEI_FINAL.pdf.aspx

[9] *Alberta schools 'lagging' behind other provinces* …, CBC, Calgary, June 5, 2017 https://www.cbc.ca/news/canada/calgary/standardized-diabetes-care-alberta-schools-1.4144485

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[11] *Incidence and prevalence trends of youth-set type 2 diabetes in a cohort of Canadian youth: 2002 – 2013*, Amed S, Islam N, Sutherland J, Reimer K. Ped Diabetes. 2018;19 (4) :630-636. https://www.researchgate.net/publication/322082929_Incidence_and_prevalence_trends_of_youth-onset_type_2_diabetes_in_a_cohort_of_Canadian_youth_2002-2013

[12] Diabetes Advocacy [operated by a Mother of a youth living with Type 1 diabetes] https://diabetesadvocacy.com/about_us.htm

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[18] *Supporting pupils at school with medical conditions* Department of Education, UK, December 2015 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638267/supporting-pupils-at-school-with-medical-conditions.pdf d/l Aug 17/18

[19] *Safe at School*, American Diabetes Association, {Federal Law] http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/legal-protections/rights-and-responsibilities.html d/l Aug 17

[20] *Safe at School*, American Diabetes Association, [State Law] http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/legal-protections/state-laws-and-policies.html

[21] Waltzing the Dragon [operated by a Mother of a youth living with Type 1 diabetes] https://www.waltzingthedragon.ca/about-us/

[22] KiDS Information Pack, International Diabetes Federation (IDF) https://idf.org/e-library/education/73-kids-diabetes-information-pack.html

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[26] Diabetes at School, CPS, CPEG, www.diabetesatschool.ca

[27] (a) Diabetes Australia – Schools https://www.diabetesaustralia.com.au/school
(b) Schools across Australia to get help to support children with type 1diabetes, https://www.diabetesaustralia.com.au/news/15540?type=articles, accessed Sept 17, 2018

[28] Diabetes in Schools, Diabetes UK, https://www.diabetes.org.uk/Guide-to-diabetes/Your-child-and-diabetes/Schools

[29] Safe at School, American Diabetes Association (ADA), http://www.diabetes.org/living-with-diabetes/parents-and-kids/diabetes-care-at-school/

[30] **Teachers, Boards and Schools Data Sources**

for 'Teachers' **[some data include school support staff]**

https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710011301

Table 37-10-0113-01 Full-time educators (headcount) in public elementary and secondary schools by sex and age group

Data Re:2015 (Missing data for Northwest Territories supplemented by https://nwtta.nt.ca/teaching-nwt

for Schools and Boards

Data from the following sources were adjusted to reflect revised data from responding Provinces & Territories

Newfoundland: http://www.ed.gov.nl.ca/edu/fastfacts.html (2017-2018)

PEI:
http://www.gov.pe.ca/eecd/index.php3?number=news&dept=&newsnumber=8407&lang=E
http://www.cbc.ca/news/canada/prince-edward-island/pei-education-administration-announcement-1.3305353

Nova Scotia: http://stats-summary.ednet.ns.ca/student-enrolment-board
School boards
https://en.wikipedia.org/wiki/Annapolis_Valley_Regional_Centre_for_Education
http://stats-summary.ednet.ns.ca/enrol.shtml
http://www.ccrsb.ca/
http://csap.ednet.ns.ca/
http://www.hrsb.ca/about-hrsb/about-us
http://www.ssrsb.ca/
http://www.srsb.ca/
http://www.tcrsb.ca/

New Brunswick: http://www.cbc.ca/news/canada/new-brunswick/first-school-day-stats-provincial-1.3746275

Quebec: https://en.wikipedia.org/wiki/List_of_school_districts_in_Quebec
https://en.wikipedia.org/wiki/List_of_schools_in_Quebec

Ontario: http://www.edu.gov.on.ca/eng/educationFacts.html (2016-2017)

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Manitoba: http://www.edu.gov.mb.ca/k12/schools/2018_mb_schools_book.pdf

Saskatchewan: https://saskschoolboards.ca/school-divisions/
http://publications.gov.sk.ca/documents/11/104736-2017%20Provincial%20Enrolment%20Statistics.pdf

Alberta: https://education.alberta.ca/school-infrastructure/schools-and-authorities/everyone/schools-and-authorities/

British Columbia: https://bctf.ca/uploadedFiles/Public/Publications/2012EdFacts.p

Yukon: Boards (eng and fre) http://www.education.gov.yk.ca/councils.html Schools: http://www.ayscbc.org/yukon-schools.html

Northwest Territories: Districts:
https://en.wikipedia.org/wiki/List_of_school_districts_in_the_Northwest_Territories
Schools:

Nunavut: Schools: https://en.wikipedia.org/wiki/List_of_schools_in_Nunavut

[31] Responses from Provinces and Territories

(a) Newfoundland & Labrador, Hon. Al Hawkins, MHA, Minster of Education and Early Childhood Education, email, August 28, 2018

(b) Northwest Territories, Hon. Glen Abernethey, Minister of Health and Social Services, email, August 30, 2018

(c) Saskatchewan, Hon Gordon Wyant, Q.C, Deputy Premier and Minister of Education, email, September 4, 2018

(d) * Manitoba, Dr. John Gerrard, MLA, email, August 7, 2018
* Manitoba Education & Training, Student Services Unit, telcon and email, Sept 5, 2018

(e) British Columbia, Ministry of Education, Director of Wellness and Safety, email, September 6, 2018

(f) Prince Edward Island, Hon. Jordan Brown, Minister of Education, Early Learning and Culture, email, September 6, 2018

(g) Nova Scotia, Hon. Zack Churchill, Minister of Education and Early Childhood Development, email, September 6, 2018

(h) Ontario, Ministry of Education, Director, Safe and Healthy Schools Branch, email, September 13, 2018

(i) Alberta Ministry of Education, Education Manager, School Accreditation and Standards, email, September 14, 2018.

[32] Existing Policies or Guidelines available online

(a) New Brunswick (January 2008) *A Handbook for Type 1 Diabetes Management in Schools* https://www2.gnb.ca/content/dam/gnb/Departments/ed/pdf/K12/policies-politiques/e/704AH.pdf

(b) Nova Scotia (2010) the 2010 Guidelines are under revision and are not currently accessible online. (September 2018)

(c) Quebec (2012) *School intervention protocol for students with Type 1 Diabetes*

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http://publications.msss.gouv.qc.ca/msss/fichiers/2012/12-215-01A.pdf

(d) Newfoundland and Labrador (2014) *Guidelines for Diabetes Management in Schools* https://www.ed.gov.nl.ca/edu/k12/studentsupportservices/GuidelinesforDiabetesManagementinSchools.pdf

(e) British Columbia (March 2015) *Provincial Standards: Supporting Students with Type 1 Diabetes in the School Setting* https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/healthyschools/diabetes/diabetes_support_in_school_settings.pdf

(f) Saskatchewan School Boards Association (September 2015) *Managing Life-Threatening Conditions: Guidelines for Saskatchewan School Divisions* https://saskschoolboards.ca/wp-content/uploads/Life-Threatening-Conditions-Policy-Advisory-2015.pdf

(g) Ontario (2018) *Supporting Children and Students with Prevalent Medical Conditions (Anaphylaxis, Asthma, Diabetes, and/or Epilepsy) in Schools* http://www.edu.gov.on.ca/extra/eng/ppm/ppm161.pdf

List of Tables

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5.0 Appendices

A. Data Tables for Province/Territory

Please Note:

* The data in these tables have been assembled from various sources. See reference [30].
* For several tables, the Province or Territory provided revised numbers but few were complete in all respects, especially, with regard to dis-aggregations and/or First Nations, private and other independent boards, schools, teachers and/or students.
* The tables included here have been colour-coded to identify **numbers provided by ministries ('green')**. In a few cases, the number provided for 'Teachers' included 'other school personnel'. **Those data have been coded as 'garnet.'**
* In general, the aggregate result is that sub-totals and totals within a given table may be inconsistent.

BRITISH COLUMBIA as per MinEd Sept 6/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	59				
French Public	1				
s/total	**60**	**1,566**	**33,454**		**641,000**
Independent		360			12,000
First Nations		130			6,000
		490			**18,000**
Total		**2,056**			**659,000**

ALBERTA as per MinEd Sept 14/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	371				
French Public	4				
s/total	375	1601	34,329		717,376
Private		725			
First Nations		62			
		787			
Total		**2,479**	**44,000**	**7,000**	

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SASKATCHEWAN as per MinEd Sept 4/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	27				
French Public	1				
s/total	28				
Private					
First Nations					
Total [includes pre K – 12]		**771**	**12,743**		**187,719**

MANITOBA as per MET Sept 6/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	36		13,114		177,688
French Public	1		450		5,642
s/total	37	689	13,564		183,330
Private - funded		62	1,103		14,656
Private - non funded		n/avail			5,476
First Nations		52	n/avail		n/avail
s/total		114			20,132
Total		**803**	**14,667**		**203,462**

ONTARIO as per MinEd Sept 13/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	71				
French Public	12				
s/total	**83**	**4877**	**141,194**		**2,006,700**
Private		249			
First Nations		115			14,000
		364			
Total		**5241**			2,020,700

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QUEBEC [30]	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	9				
French Public	29				
s/total	**38**	**471**	**67,359**		**1,285,463**
Private		29			
First Nations		34			
		63			
Total		**534**			

NEW BRUNSWICK [30]	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	4	214			
French Public	3	81			
s/total	7	295	6,756		116,661
Private		7			
First Nations		12			
		19			
Total		314			

NOVA SCOTIA as per MinED Sept 6/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	7				
French Public	1				
s/total	**8**				**91,296**
Acadian					13,010
First Nations					6,334
African					6,538
s/total					**25,882**
Total		**376**	**7,638**		**117,178**

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PRINCE EDWARD ISLAND [30]	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	1	62			
French Public	1	6			
s/total	**2**	**68**	**1,440**		**25,501**
Private		5			
First Nations					
s/total		5			
Total		73			

NEWFOUNDLAND & LABRADOR as per MinEECD Aug 28/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	1	252			
French Public	1	9			
s/total	**2**	**261**	**5,310**		**65,401**
Private		6			1,065
First Nations		3			929
s/total		9			1,994
Total		**270**			**67,395**

NORTHWEST TERRITORIES as per MinHSS Sept 4/18	School Boards	Schools	Teachers	Other School Personnel	Students
English Public					
French Public					
s/total	**10**	**49**	**790**		**8,410**
Private					
First Nations					
Total	**10**	**49**	**790**		**8,410**

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YUKON [30]	School Boards	Schools	Teachers	Other School Personnel	Students
English Public	1				
French Public	1				
s/total	**2**	**25**	**465**		**6,271**
Private		3			
First Nations		0			
s/total		3			
Total		**28**			

NUNAVUT [30]	School Boards	Schools	Teachers	Other School Personnel	Students
English Public					
French Public					
s/total	**26**	**43**	**741**		**10,424**
Private					
First Nations		0			
Total	**26**	**43**	**741**		**10,424**

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