

**Youth Excel CLASP**

**Cross-Case Study of  
Knowledge Exchange Capacity  
Within Three Provinces: Manitoba, New Brunswick  
and Prince Edward Island**

**Final Report  
September 30, 2011**



**PROPEL**  
CENTRE FOR  
POPULATION  
HEALTH IMPACT



## **APPRECIATION**

*The three provincial case study teams would like to thank all of the research participants who shared their thoughts and experiences. In addition, each case study province recognizes the value provided by Youth Excel CLASP to help capture the evolution of each provincial KE system.*

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## **LIST OF ACRONYMS**

CLASP	Coalition Linking Action and Science for Prevention
CPAC	Canadian Partnership Against Cancer
KE	Knowledge Exchange
NB	New Brunswick
MB	Manitoba
PEI	Prince Edward Island
PPHL	Partners in Planning for Healthy Living (MB)
SHAPES-PEI	School Health Action, Planning, and Evaluation System Prince Edward Island
SWS/KE	Student Wellness Surveillance and Knowledge Exchange Initiative (NB)
SWS	Student Wellness Survey (NB)
YE CLASP	Youth Excel Coalition Linking Action and Science for Prevention
YHS	Youth Health Survey (MB)
YSS	Youth Smoking Survey (Health Canada)

## **DECLARATION**

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- Marlien McKay, Department of Wellness, Culture and Sport
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- PEI Youth Excel Steering Committee
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## INTRODUCTION

Youth Health Collaborative: ‘Excel’erating evidence informed action (Youth Excel), as part of a new initiative called CLASP (Coalitions Linking Action and Science Prevention), has been funded by the Canadian Partnership Against Cancer (CPAC) to accomplish three aims:

- Aim 1: Establish and advance priorities for moving evidence to action and deriving evidence from action;
- Aim 2: Accelerate the development of knowledge exchange (KE) capacity in provinces, by doing and sharing case studies to guide this work; and
- Aim 3: Strengthen collaboration among research, policy, practice, and youth leaders by creating mechanisms to enable mutual learning about how to effect efficient and productive knowledge exchange.

As youth health KE capacity has begun to emerge across Canada, it is essential to learn from and build on such capacity to facilitate the collaboration of leaders in research, policy, and practice, in developing, evaluating, and improving interventions. Manitoba, New Brunswick, and Prince Edward Island are recognized leaders in building youth health KE capacity, each bringing together leaders from research, policy, and practice (including health, wellness and education from various jurisdictional levels within the province) to build capacity in deliberate ways.

Employing a multiple case study design, single case studies were conducted in three provinces (MB, NB and PEI) on their respective KE systems. The intent of the cross-case study is to document critical success factors for building youth health KE capacity and extract lessons learned of value to help accelerate KE development in other jurisdictions. This document presents a concise overview of the cross-case study process, cross-case analysis, preliminary findings and lessons learned.<sup>1</sup> A preliminary version of this report was presented and feedback sought at an in-person meeting of Youth Excel CLASP (YE CLASP), May 31-June 1, 2011.

## BACKGROUND

Making effective connections between research, policy, and practice has long been a concern of those carrying out research and making use of its findings and outputs. Such processes and practices have variously been referred to as ‘research utilization,’ ‘knowledge utilization,’ ‘knowledge translation,’ and ‘knowledge exchange.’ In the context of health promotion and chronic disease prevention, much work has been done to better understand such processes and Canadian organizations have played important roles in furthering research in the area.

Multiple definitions of knowledge translation and exchange exist. At the Canadian Institutes of Health Research (CIHR),

knowledge translation (KT) is defined as a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system. This process takes place within a complex system of interactions between researchers and knowledge users which may vary in intensity,

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<sup>1</sup> Each case study province has prepared a provincial case study summary with details on their methods and findings. These will be made available to YE CLASP members following provincial-level consultations.

complexity and level of engagement depending on the nature of the research and the findings as well as the needs of the particular knowledge user. (CIHR, 2009)

The Canadian Health Services Research Foundation (CHSRF) refers to knowledge exchange as “collaborative problem-solving between researchers and decision makers that happens through linkage and exchange. Effective knowledge exchange involves interaction between decision makers and researchers and results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making” (CHSRF, n.d.).

The YE CLASP funder, the Canadian Partnership Against Cancer (CPAC), aims to “maximize the value of...constantly evolving information, through the establishment of networks of collaboration, with the ultimate goal of using these resources to solve common challenges in cancer control” (CPAC, 2009). The CPAC has adapted the Knowledge to Action framework developed by Graham et al. (2006) to reflect its own organizational mandate and goals. This approach encompasses similar components of knowledge exchange to those found in the definitions above (notably, Graham et al.’s Knowledge to Action framework is also used to guide CIHR’s knowledge translation initiatives).

Each case study province uses a specific knowledge exchange<sup>2</sup> framework adapted to their own context, each of which identifies important concepts, factors and components which informed and guided the research activities within each provincial case study. See Appendix A for the Manitoba, New Brunswick, and Prince Edward Island provincial KE frameworks. All of the provinces utilize frameworks that encompass components found in these foundational knowledge exchange definitions, including:

- Processes
  - Linkages and interactions
  - Planning and producing research
  - Synthesis (of knowledge)
  - Dissemination (of knowledge)
  - Exchange (of knowledge)
  - Application (of knowledge)
- People
  - Researchers/evaluators/surveyors
  - Practitioners
  - Policy/decision makers
- Contexts
  - Varied intensities
  - Complex systems
  - Levels of engagement
  - Multi-level leadership

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<sup>2</sup> Note that we are using language consistent with the YE CLASP proposal and wish to make it clear that we understand ‘knowledge development’ to be one aspect of knowledge exchange.

## CASE STUDY PURPOSES

As outlined in the YE CLASP proposal, the Aim 2 case studies have two distinct purposes.

### Purpose 1

The case studies will examine ongoing initiatives/activities and document lessons learned with respect to building capacity in the four components of youth health KE:

- Community monitoring systems to support planning and evaluating of policies and programs for children and youth (i.e., collecting local data including risk factor data);
- The ability to synthesize relevant evidence with respect to the kinds of interventions that prove to be effective (i.e., interpretation of data informed by literature, program evaluations and the local context, etc.);
- The capacity to move evidence into action (i.e., utilization of knowledge derived from interpretation of data to implement better practices); and
- The means of generating evidence from action (i.e., learning from and sharing: better practices, programs, policies, interventions, shared experiences and evaluations).

### Purpose 2

In addition, this endeavour will help to discern realistic outcomes from these networks, such as agenda-setting, influence on youth health programs and policies, and costs and benefits to youth, as well as to regional and provincial policy makers and practitioners.

Each case study province recognized the opportunity that the Youth Excel CLASP proposal presented to assist in capturing the evolution of their respective provincial KE systems. Prior to this project, limited time and financial resources prevented each province to fully undertake research to learn from their processes, outcomes and the investment in their KE systems.

## CASE STUDY METHODS

### Research Design

A case study research design is situated between the quantitative and qualitative paradigms utilizing multi-data collection to gain an in-depth understanding of a complex social phenomenon within the real-life context in which it occurs (Yin, 2003). Therefore, a case study approach was felt to be the most appropriate research design as outlined in the original YE CLASP proposal. Case study research is useful when *“a how and why question is being asked about a contemporary set of events over which the investigator has little or no control”* (Yin, 2003, p.13).

In examining the scope of this study, one finds that it is exploratory in nature (i.e., meant to investigate phenomena/situations where there is no clear single set of outcomes), and focused on describing youth health KE experiences and capacity. It seeks to answer the questions of “what,” “how” and “why” with respect to building knowledge exchange capacity in three real-life contexts (Manitoba, New Brunswick, and Prince Edward Island). Thus, a multiple case study design was selected as it furnished researchers with opportunities to explore differences within and between cases and to uncover relevant contextual conditions (Yin, 2003).

### Key Areas of Inquiry

The research activities for the case studies were guided by *key areas of inquiry*. The key areas of inquiry were derived from the case study purposes and the perspectives of the Aim 2 Working Group and refined through a nation-wide consultation process. They were used as a platform from which to develop provincial case study data collection tools and grounded cross-case comparisons.

### *Components of Youth Health KE*

From the consultation process, partners, stakeholders and end users identified three youth health KE components as priorities for learning. Those three are:

- Community monitoring/surveillance systems to support planning and evaluation of policies and programs for children and youth
- The ability to synthesize and elicit relevant evidence about the type of intervention most likely to work
- Means of moving evidence into action

These three components were selected by stakeholders as being priority areas for investigation and were, thus, emphasised in the case studies. The fourth youth health KE component, generating evidence from action, was also explored as applicable in each province.

### *Guiding Questions for tool development*

The consultation process identified three overall areas of priority amongst partners, stakeholders and end users across the country. These areas were explored to better understand the initiation, development and sustainability of youth health KE capacity.

The key areas of inquiry include:

1. Partnerships/Collaboration
2. Using Evidence
3. Resources/Contexts

### Data Collection Activities

#### *Collaborative Processes*

Each case study province developed their own research tools based on the key areas of inquiry, the study protocol, and objectives that reflect unique provincial contexts and needs. The three provinces collaborated to refine processes for data collection and worked together to support development of data collection instruments and continuously refine collection processes, identifying commonalities where appropriate. This ensured consistency in the data collected across the three provinces, in addition to enhancing the rigour of the study. Similarly, the teams remained engaged throughout the concurrent data analysis process, using each other as resources to encourage reflection and provide appropriate ‘checks.’

#### *Methodological Considerations*

Our methodological approach within the case studies is primarily qualitative, grounded in collaborative research perspectives where researchers strive to find meaningful ways to authentically engage participants in the project (Kirby, Greaves, & Reid, 2006). To achieve reliability and validity and ensure rigour, a number of strategies have been used.



Case study researchers in each province have approached the research as an iterative process and made sure that, “data are systematically checked, focus is maintained, and the fit of data and conceptual work of analysis and interpretation are monitored and confirmed” (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

### *Sources and Methods*<sup>3</sup>

The three case study provinces used a mix of the various sources identified below.

a) Document analysis, sources included but were not limited to:

- Provincial/local policy documents
- Provincial/local departmental strategies
- Provincial surveys
- Abstracts/articles/posters
- Provincial/local planning documents
- Presentation slides
- Meeting agendas and minutes
- Press clippings and other media
- Contact logs
- Feedback and evaluation forms
- Organizational mission, vision, mandates
- Survey instruments
- Knowledge products (i.e., reports, presentations, fact sheets, etc.)
- Websites/on-line sources

Documents were organized and stored in the provincial case study databases.

b) Interviews, sources included partners, stakeholders and end users:

- Schools: Principals, other school administrators, teachers, students, parents
- School districts/divisions: Superintendents, physical education/health specialists, etc.
- Government departments
- NGOs/Alliances
- Regional health authorities: health practitioners and program/planning staff, etc.
- Academic researchers
- Youth and youth leaders

Interviews took a variety of forms depending on the purpose of the interview (i.e., which areas of inquiry or questions it sought to address) and the research participants’ orientation (e.g., youth health, student wellness and /or school health). The language used for interviews was based upon what would be recognized and understood by the various participants. This sometimes required a slight modification of questions to accommodate the intended key informants.

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<sup>3</sup> Yin (2003) identifies six sources of evidence: documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts. For our purposes, we have combined documentation and archival records into document analysis and determined at provincial levels if a distinction was required in terms of data collection and analysis procedures. Direct observation and physical artefacts were not used in all three provinces and, thus, were not included here.

Semi-structured key informant interviews were the most common form since they provide comprehensive in-depth information on individuals' experiences, feelings, and attitudes. The semi-structured nature ensured the areas of inquiry and questions were explored but also gave space for associated discussions that might lead to other important questions, areas of interest, and findings. Focus groups were conducted in situations where small group discussion was applicable (e.g., when we are concerned with collective experiences, understandings, or perspectives). Again, a semi-structured format was used to allow for unexpected themes or issues to arise. In PEI and NB, structured surveys were used to understand the viewpoints of a larger diverse spectrum of partners, end users and stakeholders.

In the case of key informant interviews and focus groups, participants were recruited through existing contacts and networks within each province. Surveys were distributed through such existing networks. Snowball sampling was used where appropriate. Attempts were made to hold interviews and focus groups in person and were also audio-recorded (some interviews occurred by telephone and email, as necessary). To capture the essence of these dialogues researchers transcribed the recordings. Notes of the interviewees' experiences and thoughts of the interview were recorded in some circumstances, adding richness to the data. These interview notes, as well as any survey questionnaires and responses, were stored and organized in provincial case study databases.

#### c) Participant observation

The researchers in each province were already involved in a number of the youth health KE activities occurring in their province. This unique position provided opportunities to gain an 'insider view' of events.

Opportunities for participant observations included:

- Meetings
- Presentations
- Workshops

Researchers' field notes were organized and stored in the provincial case study databases.

#### Ethics

Ethics approval was obtained from each institution's research ethics board. Prior to undertaking any data collection, the purpose of the research project was explained to participants and the nature of their involvement in the case study outlined. As part of this explanation, participants were assured that their individual responses would be kept confidential and that only aggregate responses would be used in reports. Informed written consent was obtained from all participants.

#### Provincial Data Management, Synthesis and Analysis

Data management, synthesis and analysis activities were concurrent, iterative, and ongoing processes, negotiated across the three provinces to ensure consistency as needed for cross-case comparisons. As outlined above, all materials were organized and stored in provincial case study databases. NVivo 8/9 software was used to manage and analyze all documents, transcripts and field notes.

Given that the case studies are exploratory and descriptive, the analysis focuses on thematic survey and conceptual/thematic description (Sandelowski & Barroso, 2003). In this way, we engaged in both “the nominal use of concepts or themes, where they are used only to label and order portions of data, and the interpretive use of concepts or themes, where concepts are actually used conceptually or themes are actually used thematically to recast portions of data” (Sandelowski & Barroso, 2003, p. 913). Based on an analytic framework drawn from the literature and from reading the data, ‘units of meaning’ arising from the texts were condensed into a set of thematic codes for each document, interview, and observation. The themes “bring together components or fragments of ideas or experiences, which often are meaningless when viewed alone” (Leininger, 1985, p. 60).

In developing the broader thematic codes, special attention was given to sections of the field notes that did not fit with the organizing structure to ensure a thorough analysis of the data. The thematic analysis was conducted among provincial teams; however, ongoing communication across provinces ensured consistency and provided increased reliability. Emergent findings were cross-checked through ongoing conversations with key informants, reviewing pertinent documents and archival materials, and engaging in cross-case discussions. All new data was coded and analyzed in terms of existing themes.

#### Cross-case Comparison Process

A case study or collection of case studies can be used to learn something about a concept, theory, social process, or phenomenon. Multiple-case designs can be used to make comparisons, propose generalizations, or establish or refute a theory. In some instances, the more cases that can be marshalled the more robust the research outcomes (Rowley, 2002); however, it is often necessary to balance having enough cases to identify common and unique characteristics with not having too many cases which can result in overstretched resources, lack of depth, and more uniqueness than can be made understandable (Stake, 2006). The choice of a multiple-case design follows what Yin (2003) calls a replication, rather than a sampling logic: additional cases are chosen for study because such cases are expected to yield similar information or findings, or contrary but predictable findings.

Each provincial case study employed thematic analysis to examine, categorize, and tabulate data from multiple sources, resulting in emerging evidence. Cross-case comparison assessed what the emerging evidence contributes to our understanding of the initial and emergent areas of inquiry, themes, and research questions. The cross-case comparison draws upon lessons learned from each provincial case study to analyse across the three cases and examine similarities and differences. In addition, the cross-case comparison serves to formulate useful insights, to separate those that are limited in range, and to identify those that might be transferable to other regions.

The Aim 2 Working Group, which consisted of one key lead from each of the three provinces, one senior researcher lead for each of three provinces, and additional ad hoc expertise as required, collaborated to develop a mutually agreed upon framework for the cross-case comparison and held three face-to-face meetings and many teleconference calls to complete the analyses and identify lessons learned. Adapting cross-case analysis procedures outlined by Stake (2006), the cross-case comparison in this study began with the lessons learned (or findings) from

each provincial case study. From there, findings were sorted into ‘clusters’. The identified ‘clusters’ were then examined in relation to the project themes (derived from the key areas of inquiry, initial research questions, and emergent themes), and the contributions of each provincial case explored (i.e., Do all three provincial case studies contribute findings to a theme? Are the findings consistent across the provincial case studies? Why or why not? Are there themes where only one provincial case study contributes findings? Why? Are there new themes that emerge as a result of the cross-case analysis? etc.).

A challenge that emerged during the cross-case development process was that each province utilized a particular terminology to describe their unique KE systems and provincial context. It was discovered that different terminology could have the same meaning or vice versa. It was also recognized that similar terminology could have subtle differences in meaning and application. Ongoing dialogue was essential to seek clarification of terms and phrases and to determine common terminology whenever possible. Building mutual understanding in regards to terminology was critical to the analysis and expression of the provincial case study findings and lessons learned.

### Lessons Learned

Based on the findings discussed in this report, important lessons emerged. Lessons were determined through reviewing and analyzing the cross-case findings for similarities, differences, and identified gaps. To be considered a lesson learned it had to be identified as an important finding for two or more provinces.

## **PROVINCIAL DATA COLLECTION SUMMARIES**

### Manitoba

The Manitoba case study team reviewed over a 100 documents and conducted 32 interviews and 6 focus groups. In total there were 59 case study participants representing both Partner in Planning for Healthy Living members and non-members including government (federal and provincial level), NGOs, regional health authorities (regional health authorities), school divisions (2 rural and 1 urban), and schools. Data were collected between June 2010 and April 2011. Results from two sources outside the case study, Addictions Foundation of Manitoba YHS focus group and the Partners in Planning for Healthy Living/Manitoba Physical Education Supervisor Association YHS Knowledge Exchange Survey were also incorporated into the case study analysis.

Table 1. Characteristics of Manitoba Case Study Participants

Sector	Partners in Planning for Healthy Living member (n=35)	Partners in Planning for Healthy Living non-member (n=24)
Government	6	2
NGO	10	0
Regional Health Authority	15	8
School divisions/school	4	14

### Prince Edward Island

The PEI case study team reviewed over 100 documents, conducted 26 key informant interviews and 7 student focus groups (involving a total of 51 students), and collected 69 online surveys. Participants were representative of government departments, school districts, school communities (including principals, teachers, students, and parents), professional associations/federations, and NGOs.

Table 2. Characteristics of PEI Case Study Participants

<b>Sector</b>	<b>Interviews/ Focus Groups*</b>	<b>Online Survey</b>
<b>Research</b>	6	3
<b>Policy</b>	6	15
<b>Practice</b>	9	47
<b>Student</b>	51	0
<b>Other</b>	2	4
* Some interviewees were interviewed multiple times. They are only included here once. Adult stakeholder interview participants represented both the education and health sectors (58% and 33%, respectively). The remaining participants indicated their sector as 'other.'		

### New Brunswick

The NB case study team reviewed over 100 documents, conducted 32 key informant interviews and hosted 2 focus groups (involving a total of 48 participants). Participants were representative of government departments, school districts, school communities (including principals, teachers), health coalitions, professional associations, NGOs and universities. In addition, participants attended from across the province, including Anglophones, Francophones and First Nations. Of the 80 participants, six individuals took part as both a key informant and a focus group member, however they are represented only once in the participant profiles.

Table 3. Characteristics of NB Case Study Participants

<b>NB Targeted Interviews – Participant Profiles</b>			
<b>Work Context</b>		<b>Position Descriptions</b>	<b>Professional Setting</b>
<b>Provincial Departments</b>	6	Representatives from the Departments of Education, Health, and Wellness, Culture & Sport	Wellness - 4
			Education - 1
			Health - 1
<b>Non-Governmental Organizations</b>	5	Representatives of the NB Anti-Tobacco Coalition and Healthy Eating and Physical Activity Coalition	Wellness - 2
<b>Regional health authorities</b>	8	Healthy Learners in School program staff (school and district levels)	Education - 8
<b>School/District Personnel</b>	8	School administrators, district level supervisors, teachers, and student services personnel	Wellness - 8
<b>University</b>	5	Provincial and other Canadian universities	Research - 5

Table 3. Characteristics of NB Case Study Participants (continued)

<b>NB Targeted Focus Group – Participant Profiles</b>			
<b>Work Context</b>		<b>Position Descriptions</b>	<b>Professional Setting</b>
<b>Provincial Departments</b>	1	Department of Wellness, Culture and Sport	Wellness - 1
<b>Regional health authorities</b>	4*	Healthy Learners in School program staff (school and district levels)	Education – 4
* Actual number of participants totalled 9; however 5 are represented in the targeted interviews participant profiles			
<b>NB Provincial Forum Focus Group – Participant Profiles</b>			
<b>NB Region</b>	<b>Language</b>	<b>Professional Areas</b>	
<b>North (40%)</b>	<b>Français (12)</b>	University academic (1)	
		Education personnel (2)	
		Community health professionals (regional health authority) (8)	
		Provincial departmental representatives (1)	
	<b>English (3)</b>	Educational personnel (1)	
		Community organizational leaders (1)	
Educational personnel (1)			
<b>South (30%)</b>	<b>English (4)</b>	Nongovernment organizational representatives (2)	
		Community health professionals (2)	
	<b>English (2)</b>	Provincial Health Coalition (1*)	
		Educational personnel (1)	
	<b>Français (4)</b>	Community health professionals (regional health authority) (2)	
		University academic (1)	
		Departmental representative (1)	
<b>Central (30%)</b>	<b>English (11)</b>	Provincial Department representative (1)	
		Community health providers (regional health authority) (4)	
		Community health providers (First Nations) (3)	
		University Academics (2)	
		Non-government organizational representative (1)	
	<b>Français (1)</b>	Departmental representative (1)	
* Actual number of participants totalled 2; however 1 is represented in the targeted interviews participant profiles			

# DESCRIPTION OF PROVINCIAL KNOWLEDGE EXCHANGE SYSTEMS

## Manitoba

The purpose of the Manitoba Risk Factor Surveillance System is for researchers, policy makers, practitioners, teachers, school administrators, youth and other stakeholders to use evidence to make informed decisions when implementing programs and policies. The systems conceptual framework has been adapted from a model originally developed by Riley and further refined by Riley and Harvey (Riley and Harvey, 2006). To support implementation of the system and integration of the system into planning cycles, a network of partners have come together to form a collaborative called Partners in Planning for Healthy Living.

Partners in Planning for Healthy Living (PPHL) began in 2006 as a network of partners that included the Canadian Cancer Society-Manitoba Division, CancerCare Manitoba, the Heart and Stroke Foundation of Manitoba, the Alliance for the Prevention of Chronic Disease and the Interlake Regional Health Authority. The role of the founding members of the coalition was to provide leadership and support to building PPHL through the integration of three main activities:

- Conducting primary prevention risk factor surveillance with sufficient sample size for use at a community level (in partnership with communities, regions, organizations and governments).
- Identifying practice-based evidence from research and evaluation that demonstrate program and intervention effectiveness in bringing about change at a population level.
- Building capacity and support in community and regional groups to evaluate programs and interventions as they are implemented.

Over the following two years, a series of workshops and meetings were held with interested stakeholders to further define the role of the group and determine an action plan for moving forward and engaging members. The stated purpose of Partners in Planning for Healthy Living is to “work together in a collegial manner to build community/regional/organizational capacity to use evidence in planning programs for healthy living”. By 2007, Partners in Planning for Healthy Living had a membership of eleven organizations spanning health, government and non-government organizations.

Due to the ever-growing membership of Partners in Planning for Healthy Living, the structure of the group has evolved dynamically with working groups formed to meet the needs of PPHL activities as they arise. As of 2011, PPHL had over 23 member organizations including all eleven Manitoba regional health authorities and a variety of government and non-government organizations. Each new partner commits to advancing chronic disease prevention in Manitoba through supporting PPHL activities, sharing experiences with other partners and investing human, in-kind or financial resources for healthy living. As organizations become more involved with the PPHL framework, they are encouraged to join and lead working groups and activities. PPHL also works closely with the CDPI/Healthy Together Now, a unique chronic disease prevention initiative, government-supported and community-led, in 10 Regional Health Authorities that is using the Youth Health Survey data to help communities target risk factor behaviours.

## Youth Health Survey

The very first Youth Health Survey (YHS) was implemented in the Interlake Regional Health Authority after they identified the need for local level data for community programming, planning and evaluation.

- The Interlake Regional Health Authority, with input from local committees, created a survey tool based on validated questions from national and international tools. The survey, known as the YHS, was implemented in all schools, Grade 6-12 across the Interlake Regional Health Authority.
- Over the next three years, the YHS was adopted and conducted throughout all eleven Manitoba regional health authorities.
- Funding for the survey was patchwork with regions donating in-kind time and other member organization donating funding.
- In 2007-2008, the YHS implementation was accelerated by a letter of support from the Manitoba Minister of Education, Citizenship and Youth along with the Minister of Healthy Living/Chair of the Healthy Child Committee of Cabinet in order to work with the regional health authorities in obtaining youth data to provide a baseline for evaluating the new Grades 11 and 12 Active Healthy Lifestyles: Physical/Health Education curriculum.
- Regional health authorities approached all school divisions and schools in their regions including independent, colony, First Nations and francophone schools. By the end of the 2007-2008 school years, students in all regional health authorities were contacted to fill out the YHS. Many regions surveyed students in grades 6-12, while all regions surveyed students in grades 9-12. In total 46,740 students completed the YHS.

## Knowledge Exchange

- Feedback reports based on the YHS results were generated at school, school division, health district, regional and provincial levels. The Interlake and NOR-MAN Regional Health Authority and CancerCare Manitoba shared the task of scanning surveys. All analysis and generation of reports were completed by the Epidemiology Unit at CancerCare Manitoba.
- Regions took the lead on feedback report dissemination and other knowledge exchange activities within their communities and schools and supported them in utilizing the data to make informed decisions in regards to planning, and program and policy development.
- In addition presentations were made to various government departments, education associations, and steering committees of provincial initiatives such the Chronic Disease Prevention Initiative (currently known as Healthy Together Now).

## Prince Edward Island

The School Health Action, Planning, and Evaluation System – Prince Edward Island (SHAPES-PEI) aims to establish a local, comprehensive system to measure school health that provides student and school level health information. This initiative provides benchmark data for PEI and offers a detailed snapshot of the multiple influences on youth health behaviours such as peers, families, and school policies. As a result, SHAPES-PEI is planned as a biennial system that will support school, board and provincial level planning.



SHAPES-PEI is funded by the PEI Department of Education and Early Childhood Development (Department of Education and Early Childhood Development) and the PEI Department of Health and Wellness and is managed jointly by the Department of Education and Early Childhood Development and the Comprehensive School Health Research (Comprehensive School Health Research) Group at the University of Prince Edward Island. Planning for SHAPES-PEI began in 2007 as a response to the need for a more coordinated approach to school health data collection in the province. Since 2008, the Department of Education and Early Childhood Development has committed annual funding to this initiative. The implementation of SHAPES-PEI is made possible by leveraging funds from the national Youth Smoking Survey (funded by Health Canada). The initiative serves as a mechanism to support school communities in promoting healthy living using local data at the school, board, and provincial levels.

Every ‘cycle’ of SHAPES/YSS-PEI is implemented over two years.

Cycle Year 1 includes:

- Collecting student and school data
- Generating School Health Profiles for participating schools, boards, and the province

Student-level data collection involves:

- Students in grades 5-12
- Questions on four health behaviours (physical activity, healthy eating, mental fitness, and tobacco use)
  - Drug and alcohol questions are also asked of students in grades 7-12
- A paper survey that takes one classroom period to complete

School-level data collection involves school administrators and/or school teams who are asked to complete the Healthy School Planner, an online tool that assesses the school health environment (policies and programs).

School Health Profiles are sent to participating schools approximately 8-10 weeks following their data collection date, providing school specific data. School board and provincial profiles are generated following the completion of all data collections.

The profiles:

- Summarize findings
- Provide evidence-based suggestions
- Facilitate knowledge exchange between key stakeholders

They, thus, provide a rich description of the school context, with the purpose of helping guide future initiatives in schools

Two data collections have been implemented, thus far:

- In 2008-09:
  - Out of 68 eligible schools, 58 participated (85%)
  - Approximately 9 000 students completed a survey (YSS or SHAPES)
  - 19 schools completed at least one module of the Healthy School Planner

- In 2010-11:
  - Out of 61 eligible schools, 54 participated (90%)
  - Approximately 9 000 students completed a survey (YSS or SHAPES)
  - 17 schools completed at least one module of the Healthy School Planner

Cycle Year 2 includes:

- Knowledge exchange activities with various stakeholders
  - Presentations
  - Meetings
  - Conferences
  - Briefing notes

The aim is to provide follow-up support to schools who participated in the survey. The Comprehensive School Health Research Group and the Department of Education and Early Childhood Development collaborate on this effort to support and provide guidance to schools for working with, and responding to, student and school level data. One year of KE was carried out in 2009-10. The focus was on developing and implementing the PEI School Health Grant Program. The program was developed out of the partnership between the Comprehensive School Health Research Group and the PEI Department of Education and Early Childhood Development. The Department provided the funding, while working collaboratively to develop the program objectives and criteria with the Comprehensive School Health Research Group. The program was administered jointly and funding decisions made with the participation of both partners. The intent of the program was to approach schools to discuss the findings reported in their Profiles, help them identify areas for improvement, and provide resources (funding) to implement an activity. In 2009-10, 16 schools applied to the program and received funds. The Grant Program was offered again in 2010-11, and had an increase in participation (30 schools applied and received funds). It is, now expected to be offered each year.

In addition to meeting with schools and implementing the School Health Grant Program, during 2009-10 the Comprehensive School Health Research Group and the PEI Department of Education and Early Childhood Development developed briefing notes and held a media event. Presentations were made to diverse audiences, including:

- Principals
- Vice-principals
- Health teachers
- Elementary/intermediate/senior high standing committees
- The PEI Home and School Federation
- The PEI Teachers' Federation
- The PEI Tobacco Reduction Alliance
- The Education Leadership Team of the PEI Department of Education and Early Childhood Development
- Academics at conferences, both locally and nationally

Presentations were mainly focused on raising awareness and sharing findings. Questions and comments were always encouraged, and in some more recent instances the presentations have focused more heavily on engaging audiences in discussion regarding the (potential) benefit of the

initiative to them or their organization. These activities were all done in partnership with the Department of Education and Early Childhood Development and are ongoing. Planning is currently underway for the second KE year of the initiative where the focus is expected to be on further encouraging SHAPES-PEI knowledge use by provincial stakeholders, as well as engaging parents and students in youth health.

### New Brunswick

The New Brunswick Student Wellness Surveillance and Knowledge Exchange Initiative (SWS/KE), including the New Brunswick Student Wellness Survey (SWS), has been funded through New Brunswick's Wellness Strategy since 2006 and has benefited from ongoing annual funding. SWS/KE is implemented through a working collaboration between the Department of Wellness, Culture, and Sport, the Department of Education, and the Health and Education Research Group (HERG) at the University of New Brunswick, spanning the years from 2006 to present. As a result of experiences and use of Tobacco-Free Schools Smoking Profiles, the Youth Smoking Survey, and various local, provincial and national based data collection, when the Wellness Strategy was announced, there was an opportunity to build on these previous experiences. The Wellness Strategy Framework included a strategic direction of surveillance, and a growing demand for local and relevant evidence to inform, monitor and assess wellness-related strategies and actions for youth, schools and communities.

The intent of the student wellness and knowledge exchange activities at local, regional and provincial levels is to help achieve the following purposes of the SWS/KE Initiative:

- To monitor the healthy lifestyle behaviours of New Brunswick students with respect to healthy eating, physical activity, tobacco-free living, and mental fitness.
- To engage educators, students, their families, and the wider community in using local, district, and provincial level surveillance data to formulate and undertake key strategic actions to promote healthy lifestyle behaviours.
- To inform and refine New Brunswick's Wellness Strategy elements associated with local, regional and provincial wellness initiatives through continued surveillance and evaluation of changes in student wellness behaviours.

The SWS/KE work plans spanning from 2006-2011, identified key directions for targeted actions focused on four main areas:

- Carrying out and repeating surveillance data collection efforts for all district elementary, middle and high schools.
- Conducting knowledge exchange and mobilization activities in elementary and secondary schools in collaboration with regional stakeholders to target local and provincial wellness priorities identified as a result of student wellness feedback reports.
- Enhancing New Brunswick research capacity to complete all operations and analysis activities related to the student wellness surveillance initiative.
- Creating a provincial research program to augment secondary data analyses and publication of student wellness surveillance results.

Year end and multiple year reports submitted by HERG to the Department of Wellness, Culture and Sport contained vital information related to the implementation of specific surveillance and knowledge exchange activities, for example:

- In 2006-2007, of a potential 212 schools, 184 (87%) completed the initial secondary school surveillance endeavour, with questions on four wellness pillars (mental fitness, healthy eating, physical activity and tobacco-free living); producing a dataset of approximately 40,000 student outcomes (grades 5-12). Initially, 34% of schools accessed their school feedback reports and/or summaries.
- In 2007-2008, 120 (65%) schools (grades 6 to 12) and 14 districts (100%) were engaged in using their feedback reports in planning wellness activities and promoting the adoption of healthy lifestyles among students and their families. Following a round of KE activities, schools accessing their reports increased to 70% with varying rates of access for individual reports. Of those assessing any report, 98% accessed Tobacco Use, 92% accessed Physical Activity, 76% accessed Healthy Eating, and 52% accessed Mental Fitness. New knowledge products were developed to expand the use of findings: middle school curriculum connectors; provincial wellness fact sheets.
- In 2008-2009, research on the utilization of the student wellness surveillance results was conducted by the HERG personnel, which included:
  - Extent of data sharing (e.g. staff, parents, students).
  - Examples of use of evidence in planning, grant submissions and related activities.
  - Evidence to action impact on committee development, student and community engagement.
- In 2009-2010, for cycle two, all aspects of the secondary student wellness surveillance operations were carried out in New Brunswick inclusive of survey refinement, data collection, processing, analysis, knowledge product development and KE activities with 127 (62%) schools (grades 6-12). Reduced numbers were attributed to the H1N1 health concern that involved many school-based champions and delayed the program start; and the commitment of districts to the use of other health surveys (e.g. *Tell Them From Me*).
- From 2007 until 2011, documented knowledge exchange activities supported by HERG personnel included:
  - Execution of district and school level workshops to promote planning of mobilization activities based on wellness surveillance outcomes.
  - Consultations with school health professionals on how to apply survey results.
  - Communications with schools on innovative ways to link wellness grant programs and their SWS results in designing or supporting school-based wellness activities.
  - Completion of regional wellness events to encourage mobilization of health providers, educators and community partners in using surveillance results.
- The elementary surveillance endeavour implemented in 2007-2008 was completed with a representative sample of 23 (11%) schools. This surveillance effort involved the administration of student surveys to students (grades 4-5); the completion of surveys by the parents of students (K- grade 5); and the execution of direct measures (grades 1; 3; 5).
- In 2010 and 2011, a working collaboration with the Department of Wellness, Culture, and Sport; the Department of Education; and the Health and Education Research Group was created to facilitate the implementation of cycle two for the elementary surveillance initiative. This merger of the student and parent wellness surveys with the Department of Education's Anglophone Sector's student and parent perception surveys, resulted in survey refinement, integrated data collection and processes, and new knowledge product development. In addition, all elementary schools were invited to participate, and at the conclusion, 203 elementary schools took part, representing a 95% participation rate.

## CROSS-CASE FINDINGS

For a summary table of the cross-case lessons learned derived from the findings discussed in this section of the report, see Appendix B.

### A. Guiding Knowledge Exchange Models

Knowledge exchange models refer to existing system frameworks that identified key processes, people and contextual conditions necessary for knowledge development and moving knowledge into action. All three provinces utilized a knowledge exchange model/s (although different in each province) as foundational to their surveillance initiatives. They were used to establish the development of their surveillance activities, to plan and execute activities, and to guide the ongoing work.

In MB, the Manitoba Risk Factor Surveillance System is based on the concept originally developed by Barb Riley (Riley, 2005) and further refined by Barb Riley and Dexter Harvey (Riley and Harvey, 2006). PPHL further adapted the framework for a Manitoba primary prevention and knowledge system. In PEI, the School Health Action Planning and Evaluation System (SHAPES) model, developed at the University of Waterloo through the SHAPES Collaborative Team, was employed. NB started with the Wellness Strategy Framework (logic model), which was complemented by the emerging School Health Action Planning and Evaluation System (SHAPES) model and the Health and Education Research Group's three year Knowledge Exchange and Research Uptake Cycle. See Appendix A to view the conceptual models for each province.

In all three provinces, each knowledge exchange model accepted a knowledge-to-action process which recognized the value of providing evidence to inform action and learning from action to refine evidence. Each contained essentially the same key components that reflected a repeated and sustained process encompassing surveillance, analysis, knowledge exchange, best practice planning & implementation, feedback & evaluation, refinement.

All three provinces have aligned their knowledge exchange models into existing provincial planning cycles that utilize surveillance findings. Each province selected a multi-year cycle based upon their respective needs and opportunities (2, 3 or 4 year cycle). Currently, in MB the Manitoba Risk Factor Surveillance System is integrated into a 4-year planning cycle to complement the Community Health Assessment cycle. PEI uses a 2-year cycle to leverage funding from the Health Canada-funded Youth Smoking Survey. In NB, a 3-year cycle is utilized based upon evidence arising from Community Mobilization Models and to align with the 3-year cycle of the Department of Education's School/District Improvement Plans.

The knowledge exchange models in all three provinces provided the framework for an orderly execution of activities as well as a clear purpose and approach. Each component of each model comprises a complex set of processes in itself. For example, surveillance includes: instrument design → data collection → analysis → reports → dissemination → feedback.



While the models each provided a logical sequence of activities, the activities were sometimes conducted concurrently, allowing flexibility to meet the needs of each province and/or regional jurisdiction within a province.

To date, in MB, the only fully realized, province-wide component of the Manitoba Risk Factor Surveillance model is surveillance (the Youth Health Survey completed in 2008). Other components, including knowledge exchange and knowledge use for program and policy development, are in progress and at various stages in different regional health authorities. Components such as, the integration of other evidence-based practices and feedback/evaluation, did not emerge strongly in the provincial case study analysis which may indicate an existing gap in the implementation of the Manitoba Risk Factor Surveillance System.

In PEI, SHAPES-PEI's model involves school health assessment, feedback for planning (knowledge synthesis and exchange), action (mobilization), and evaluation/adaptation components. Thus far, the focus has been mainly on establishing the assessment and feedback components, while beginning to support and encourage action. PEI has completed two surveillance cycles and initiated knowledge exchange. In PEI, knowledge exchange has, to date, focused on developing and implementing the School Health Grant Program and supporting schools to use their SHAPES-PEI reports, in addition to presentations to diverse audiences to raise awareness about the initiative and encourage knowledge use. Adaptation has occurred in PEI as needed (e.g., revising the student questionnaire for younger grades after teachers expressed concern at its language and length). Evaluation has occurred internally amongst the research team and its collaborators, however, no funds have yet been secured for more formal evaluation.

NB's initiative has been in place since 2006, and has realized activity within each component of the KE models used to inform the SWS/KE Initiative (see Appendix A); although some more fully than others. In particular, under System Assessment, four cycles of surveillance have been undertaken, two for the secondary schools and two for the elementary schools, with the findings used to monitor wellness, education and health indicators. For Knowledge Synthesis and Exchange, the data have been represented through refined knowledge products (feedback reports, fact sheets) presented at school, district, regional and provincial level exchanges to engage stakeholders in addressing priorities for action. For Knowledge Mobilization, action planning on identified priorities and implementation of best practices has occurred at the school, district, regional and provincial levels. During these exchanges, feedback on knowledge utilization and product design was gathered to inform Knowledge Evaluation and Refinement. However the evaluation process to document lessons learned as a result of implementation processes is still underway. For System Context and Strategy, the SWS/KE Initiative is currently embedded in several practices at the departmental level (e.g., for Wellness it is a strategic direction of NB's Wellness Strategy to monitor key indicators of wellness, it is applied to School Wellness Grants, and is used as a key tool to engage and mobilize communities; for Education it is aligned by some with School/District Improvement Planning and utilized in School Wellness Grant Applications; for Health it is a key planning resource for the Healthy Learners in School Program). In addition, as a result of research activities for this case study, discussion has begun on how the knowledge exchange model can be achieved as part of the system's strategic planning processes.

In NB, ongoing research (e.g., key informant interviews, online surveys and related evaluation) is conducted at local, regional and provincial levels. Stakeholder feedback on survey tools and KE products is also solicited during KE activities. This research is used to refine the knowledge exchange processes and actions under the foundation component of Underlying Research.

The level at which the knowledge exchange models are understood or utilized is different in each province; however, each undertakes efforts to communicate the model to various stakeholders.

The Manitoba Risk Factor Surveillance System framework is well understood by PPHL partners as it is part of every presentation made by the Partners to end-users. This is consistent with NB's approach, in which both the Knowledge Exchange and Research Uptake Model and the SHAPES model are well understood by the SWS/KE Initiative funder and planning team, as well as most departmental and district level stakeholders. Although the models are included in every presentation, the level of understanding of the SHAPES model at the school level would be less realized. However, all stakeholders have a good understanding of the Knowledge Exchange and Research Uptake Model as it is outlined as a three year cycle which aligns with the three year cycle for Education's school/district improvement plans and Health's Healthy Learners in School three year work plans. In PEI, the model has been used primarily in presentations to provide the context for implementing the SHAPES-PEI survey in schools and for follow-up actions. The model was not explicitly discussed by PEI case study participants, however, many understood the philosophy of the SHAPES-PEI initiative to include the SHAPES knowledge development and exchange elements despite the model not being widely advertised.

### *Lessons Learned*

- All case study provinces identified an underlying KE model that illustrated the intent, stakeholders, processes and activities deemed essential for moving knowledge into action. KE models moved beyond being simply a system for gathering data and producing reports to include emphasis on partnership development, expanded knowledge sharing activities, and comprehensive policy and practices initiatives designed to move knowledge into action.
- The notion of repeating the KE processes for each model over specific time periods was recognized as essential for embedding knowledge-to-action activities within existing planning and decision-making cycles or approaches among multiple youth health, wellness and education stakeholders.
- The use of KE models assisted the case study provinces and health, wellness and education stakeholders in communicating and understanding their potential roles in developing, sharing or applying knowledge pertaining to youth health. In this regard, the various provincial models provided a resource for clarifying roles and building key collaborations among youth health, wellness and education stakeholders.

### *Contextual Variations*

- Although each provincial case study identified the benefits associated with having an underlying KE model, the timelines assigned to the KE processes during a given cycle varied, reflecting regional differences related to the availability of financial resources, the timing of planning cycles of various government departments, and the nature of competing demands associated with accessing and collecting youth health data.

## B. State of Readiness

State of readiness refers to an acknowledged need for health related data to inform policy or practice development at either local, provincial or national levels and expressed interest from health, wellness and education stakeholders to collaborate on actions to move knowledge exchange forward. All three provinces experienced a state of readiness for youth health knowledge development and exchange activities which are considered to have been important in establishing and advancing the systems now in place.

### *Need for Local Data*

There was an identified need for local data expressed in each province, though there were slight differences in who identified this need and pushed for action in their province. In all three provinces, it was felt that large national surveys, and provincial surveys where they exist, did not collect enough representative responses to make precise estimates at the community level. All three provinces sought data that could be effective in informing planning and action within specific provincial/regional contexts and it was felt that these did not exist for youth health in their province.

In MB, regional health authorities sought local-level data for program and health services delivery planning. In 2005, the Interlake Regional Health Authority identified the need for local-level data to help select communities with high rates of chronic disease to be part of the provincial Chronic Disease Prevention Initiative now known as Healthy Together Now. This need for local-level data by the regional health authorities also coincided with their Community Health Assessment reports and was shared by MB Education who required local data to evaluate their new Physical Education and Healthy Eating curriculum.

The PEI Department of Education and Early Childhood Development similarly played a key role in advocating for collecting local data on student health. In 2006-07, the PEI Department of Education and Early Childhood Development had hired a School Health Specialist who was asked to look at a school health program in place in Island schools at the time. It was decided that the existing program did not meet the Department's needs. When that program ended, there was no longer any school health assessment data being collected in PEI. That led to champions within the Department of Education and Early Childhood Development to argue that the province should fill this gap and gather data on student health. It was felt that schools wanted to act on health-related issues, but only had intuition to go by and needed evidence to help them determine where and how they should act. In PEI there was also movement among the research community for collecting local school health data. For years, school-based research on tobacco use was conducted on PEI by Dr. Murnaghan and the Comprehensive School Health Research Group at UPEI. After success with these studies, the researchers sought to expand their tobacco use research with schools to encompass other chronic disease risk factors.

There was a similar identification of the need for local data by government, researchers and stakeholders in NB. The Wellness Strategy Framework (logic model) was initially developed in 2006 to support the implementation of New Brunswick's Wellness Strategy by the newly formed Department of Wellness, Culture and Sport – Branch of Wellness. The creation of the model was a collaborative effort undertaken by departmental authorities with academics from the Health and Education Research Group, representing both the University of New Brunswick and Université



de Moncton. Within the Wellness Strategy Framework there was a focus on the development of local community and regional capacity to promote healthy lifestyles. Central to this was the execution of surveillance (local data collection) and knowledge exchange activities. Thus, as NB moved forward with developing a new provincial wellness strategy, the previously identified need for local data was embedded within surveillance as one of the strategic directions within the Wellness Strategy.

### *School Interest in Health Knowledge*

In all three provinces, there seemed to be a readiness among schools themselves for local data. In MB, many of the schools involved in the case study said they were open to the YHS because they were interested in obtaining their school specific report. This data was important to them because they want to develop their own policies and programs, as well as evaluate the effectiveness of their new mandatory written nutrition policies. In addition, participants were genuinely concerned for their students' well-being. From an education perspective they understood that healthy students make better learners, and there was an existing culture of promoting student health within the schools.

In PEI, the desire for local school-specific data was also key to schools' decisions to participate in SHAPES-PEI. An important motivating factor for participation in SHAPES-PEI at all levels (school, school district, and province) was to support school-level change. Youth health stakeholders wanted to see students become healthier and needed to identify problem areas. During the case study interviews, it was often expressed that schools would have a general idea of how their students were doing in regards to healthy eating, physical activity, tobacco use, and mental fitness but without evidence it was difficult for them to leverage funds for new activities or programs. Granted, those who agreed to be interviewed are more likely to have had an interest in the initiative to begin with. Not all schools who participated in the SHAPES-PEI student survey downloaded or read their school-specific reports, suggesting that perhaps *all* schools are not equally interested in using SHAPES-PEI data as evidence to support school-level change.

In NB, several schools, districts, and regional health authorities had previous experience with the Tobacco-Free Schools' School Smoking Profiles (2001 onward), Healthy Learners in School Program local surveys (2002 onward), the Youth Smoking Survey (1996 onward), the Student Drug Use Awareness Survey and the Canadian Community Health Survey. Health professionals were using evidence from various surveys to try and address student wellness priorities and were looking for expanded data on other youth health behaviours (e.g., healthy eating and physical activity). Similarly, for Education, schools and districts were encouraged to use evidence in the completion of their school or district improvement plans and when applying for the school grant programs available at that time. The Department of Health, the Regional Health Zones and the Healthy Learners in School program, were using evidence within their strategic plans. Within the Department of Wellness, Culture and Sport, evidence was embedded within the Wellness Framework and the emerging Wellness Strategy to identify and monitor key wellness indicators.

### *Existing Capacity*

In addition to an identified desire or need for local data on youth health, all three provinces had existing capacities that allowed them to move forward successfully with implementing knowledge development and exchange systems. In MB, during the creation of PPHL, existing

expertise was identified among partners. A few examples are presented here. All MB regional health authorities are members of the Need to Know Network and the Community Health Assessment Network (CHAN). The Need to Know and CHAN teams developed regional expertise in understanding and using data for program and health service delivery planning. In addition, they established cross-region relationships and partnerships. Many of the CHAN members went on to become the PPHL primary contact and lead for the YHS in their region. Also at the time of the first YHS, the former CancerCare MB Provincial Director of Cancer Control saw the need to work in prevention (and in particular risk factor surveillance) and so created a risk factor epidemiology position and two programmer/analyst positions with support from the CancerCare Manitoba Foundation. The department grew with the addition of these new positions. Their capacity and statistical expertise to analyze the data was critical to the success of the YHS. With a few exceptions, the RHA case study participants reported that their region did not have the skills and resources to perform the statistical analysis and report generation.

MB also worked to create capacity within the province. The Canadian Cancer Society's Knowledge Exchange Network (KEN) offered workshops to regional health authorities on how to use evidence in planning and used the YHS as an example of available evidence. PPHL also created readiness in the regions by hosting three symposia between 2006 -2009. The symposia all focused on creating understanding about the value of using evidence and how to use evidence. Attendees included regional health authorities, government, and community organizations. Readiness also developed within the regional health authorities as the YHS was implemented. Readiness initially varied across the regions but a letter of support from the provincial government strongly encouraged all regions to engage in the YHS data collection. Regions also joined PPHL (if they were not already members) so that they could access funding, resources, expertise, and tools. By the time the YHS reports were generated and knowledge exchange was to happen, all regions had a champion for risk factor surveillance.

PEI also demonstrated readiness, particularly with respect to its existing capacity to carry out school-based research. When SHAPES-PEI was in the planning stages, Dr. Murnaghan and the Comprehensive School Health Research Group had already spent ten years collecting data in schools and developing important relationships with national and provincial partners. Dr. Murnaghan, a nursing professor at UPEI, first implemented the tobacco module of the School Health Action, Planning, and Evaluation System tool (SHAPES) in PEI high schools in 1999-2001 and her research group implemented the Youth Smoking Survey (YSS) in PEI during the 2004-05 and 2006-07 schools years (and again in more recent years as part of SHAPES-PEI), all in partnership with researchers at the University of Waterloo. Dr. Murnaghan had also, through this research, developed relationships with the PEI school/education system, including with the school boards and principals. An important part of her work was providing research results (feedback) to schools that participated – something that was continued as part of YSS and SHAPES-PEI. Thus, when discussions began regarding school-based data collection on student health, Dr. Murnaghan and the CHSR Group were well positioned to partner with the provincial government, and schools, school boards, and the province were familiar with the research team and its approach to research with schools.

NB schools, districts, and regional health authorities also had previous experience with health related surveys, like Tobacco-Free Schools (2001 onward), Youth Smoking Survey (1996

onward) and the Canadian Community Health Survey. Stakeholders expressed support for surveillance that included feedback reports, like School Smoking Profiles, and thus some capacity existed for school-based data collection and student health knowledge exchange activities. Throughout 2001-2003, several events provided stakeholders working in NB schools, districts, and the Healthy Learners in School program with training on school health approaches (e.g., Comprehensive School Health, Tobacco-Free Schools), where data collection and utilization was identified as essential to action planning. Participants were provided with concrete examples like the Hampton High School smoke-free experience. In addition, stakeholders from the NB Anti-Tobacco Coalition had used research data to guide their strategy and actions, and establish capacity within the province. Similarly, the Healthy Eating and Physical Activity Coalition were exploring the use of data to inform their strategy. Key government policy makers recognized the value of surveillance and local/regional reporting of student health data on multiple behaviours. In addition, NB researchers and government had existing relationships with the Centre for Behavioural Research and Program Evaluation (now Propel) at the University of Waterloo that facilitated the initial roll-out of NB's student wellness surveillance in 2006-2007. An existing partnership between the University of New Brunswick and the Université de Moncton also helped to build research capacity within the province.

### *Lessons Learned*

- All three provinces identified a lack of comprehensive local level data to inform policy development and practices related to a range of youth health behaviours prior to the development and implementation of their respective knowledge exchange models. Early supporters and champions of having local level data also affirmed the importance of linking surveillance and knowledge exchange as part of the same process.
- Consultation with youth health, wellness and education stakeholders at government, school, and community levels was identified as critical for understanding their needs for youth health data, and ways in which data could be presented or shared to support greater use and application of new knowledge in their given contexts.
- Within each province, existing networks, coalitions, and working relationships related to youth health and wellness provided an initial foundation for promoting the value of youth health surveillance and knowledge exchange. Such capacity was initially identified and sought out by small working committees within each province. These groups accepted the mandate to champion the task of gathering and sharing local level youth health data.
- All provincial sites built on success arising from experiences with other health-related surveillance activities (e.g. YSS, BRFSS, CCHS, HBSC and SHAPES). Such experiences were recognized as helpful for generating initial commitment and support for continued surveillance and knowledge exchange.

### *Contextual Variations*

- Knowledge exchange champions who promoted and facilitated the development of surveillance and knowledge exchange processes came from a variety of stakeholder groups. Within New Brunswick and Prince Edward Island, government and university collaborations were central in launching initial surveillance and knowledge exchange activities. In Manitoba, regional health authority representatives and members of nongovernment organizations played an initial role in promoting and expanding knowledge exchange efforts.

### C. Knowledge Exchange Products

KE products were defined as communication resources, such as reports, facts sheets, websites, etc., intended to engage and inform multiple audiences of youth health, wellness and education stakeholders on local and provincial surveillance outcomes, and potential implications for moving such knowledge into action. All three provinces utilized knowledge products to present comprehensive findings on important youth health behaviours related to chronic disease such as healthy eating, physical activity, tobacco use, and mental fitness. The following is a list of the variety of knowledge products created by the three provinces:

- School Feedback Reports (MB, PE, NB)
- District/Division Feedback Reports (MB, PE, NB)
- Regional Reports (MB, NB)
- Provincial Reports (MB, PE, NB)
- Various Summary Reports (MB, PE, NB)
- Provincial Fact Sheets (MB, NB)
- School/District At-A-Glance Reviews (NB)

Feedback reports were noted as essential to opening the dialogue for the engagement of stakeholders, especially with school staff, students, parents, and the community, by offering meaningful findings in a timely manner. To increase the appeal and uptake of the findings, attention was given to the report format for content, length, literacy, and language of the respective stakeholders.

In NB, feedback reports were distributed through electronic downloads, email correspondence, and hard copies. PEI provided reports mainly via electronic downloads and email correspondence, with limited production of hard copies. In both NB and PEI, the reports were distributed primarily by the respective research group (e.g., to schools, boards, and the province), while encouraging those stakeholders to share with their communities. In MB, the reports were prepared by CancerCare Manitoba's Epidemiology department. The reports were distributed to regional health authorities electronically (CD) and in hard copies. Regional health authorities then distributed the reports to schools and school divisions. In all three provinces, revisions and refinement of knowledge products, accessibility and/or delivery options were modified based upon informal feedback provided by stakeholders (MB, PEI) and formal evaluation (NB).

Each province reported favourable impressions with respect to their reporting format, such as:

- Inclusion of health behaviours such as healthy eating, physical activity, and mental fitness in addition to tobacco use (Many schools in PEI and NB had previous experience with the Youth Smoking Survey where reports focused on tobacco.)
- Ease of reading and understanding
- Visual appearance of graphs and tables
- Use of short descriptive sections to explain the issue and survey findings
- Inclusion of better practices and comprehensive school health perspectives
- Incorporation of national standards for some health behaviours
- Use of grade-based organization of data

All three provinces also utilized websites to provide a platform from which to share and learn, to increase the use of the research findings and to provide outreach to stakeholders. In NB, HERG's

website provided: provincial findings, survey and report samples, testimonials and resources such as the Curriculum Connectors, 30+ middle school learning ideas that incorporated the SWS findings into five subject areas, like language arts and mathematics (see Appendix D). Other NB government websites or portals offered key SWS documents or links, e.g., Wellness and Education. In MB, the PPHL website was reported to be invaluable for the more isolated communities, particularly in the North, to access resources to assist with knowledge exchange. However, case study participants felt they were not reaching youth with existing KE products and should be exploring the use of social media. In PEI, the initiative website provided schools, parents, and other stakeholders with project information, School Health Grant application guide and forms, as well as access to student questionnaires and provincial reports/data.

### *Lessons Learned*

- All provincial sites asserted the importance of tailoring knowledge exchange products to engage the interest and to respond to the needs of various stakeholder groups within the education, school health, and public health sectors. Key audiences included principals, teachers, youths, parents, community members, school health professionals, nongovernment agency representatives, and government directors and managers.
- Knowledge exchange products provided a common entry point for all three provinces to initiate dialogues with existing and new stakeholders on youth health findings and best practices. Initial dialogues using the knowledge exchange products were recognized as beneficial for increasing interest in local school/youth health profiles, explaining the relevance of youth health to educational outcomes, and securing greater commitment from stakeholders for sustaining surveillance and knowledge exchange.
- To ensure the greatest uptake of school health knowledge, knowledge exchange products were written in language that was familiar and easy to understand for a range of stakeholders. Presentation of surveillance outcomes was often accompanied by concrete examples of how knowledge could be applied using identified best practices.
- The creation of concise knowledge exchange summaries or fact sheets highlighting key youth health outcomes was identified as appealing and manageable for engaging the attention and interest of senior policy makers and leaders from government, regional health authorities, schools and districts, and other community and nongovernment organizations.
- All case study provinces used websites to make youth health data and resources for knowledge exchange accessible to a wider range of stakeholders. The use of websites for sharing stories, and practises related to youth health and wellness was also initiated in each province; however, the use of technology, web-based and social media approaches for the expansion of knowledge exchange and the development of communities of practice on youth health was identified as an area for further development.

### *Contextual Variations*

- Through ongoing KE activities in each provincial jurisdiction, numerous knowledge products were designed for specific audiences and stakeholder groups. For the development of the initial feedback reports, in New Brunswick and Prince Edward Island, the SHAPES report was used as the preliminary format. In Manitoba, one regional health authority developed a report template that over time was adapted and modified by other regional health authorities.

#### D. Knowledge Exchange Activities

KE activities refer to events, forums, meetings, presentations or planning sessions designed to engage health, wellness and education stakeholders in deliberations and collaborations related to understanding and using youth health data to plan actions. Focusing on exchanging information with stakeholders has been important in each of the three provinces at the school, community and provincial levels. All three provinces provided feedback/profile reports at the level of schools, districts, regions, and the province. Further KE activities were also carried out to raise awareness and understanding, share findings, and encourage knowledge use.

##### *School-level KE*

School-level KE has been central to the work of the SWS/KE Initiative and SHAPES-PEI teams and varies by regional health authority in MB.

In NB, district and school-level knowledge exchange activities (approx. 50/yr) were conducted for five consecutive years, beginning in 2006 with the introduction of the SWS/KE Initiative to encourage participation and facilitate recruitment. Following the initial data collection in 2006, presentations and workshops were used to communicate the findings and promote planning of mobilization activities based on student wellness outcomes with school staff, parents groups (e.g., Parent School Support Committees) and wellness committees (e.g., District Health Action Committees). Individual consultations were held with school health professionals on how to apply the findings, and communication with schools provided innovative ways to link wellness grant programs with the school wellness feedback reports. Specialized workshops and professional development days were held with schools and district staff, school health professionals, community organizations serving schools, and existing health coalitions, to expand the utilization of the SWS findings, to increase the understanding of mental fitness and its relationship with other health behaviours, and to encourage the use of comprehensive school health approach (CSH). Each KE activity intended to expand capacity through existing student wellness champions and/or developed new student wellness partners, emphasized the value of evidence informed action and facilitated learning from action. Utilization of SWS findings was reported most often by schools, districts, and communities with local wellness champions and/or committees (e.g., Healthy Learners in School Program, District Health Action Committee, and Communities In *Motion*). Many also accessed financial resources (e.g., School Wellness Grant, Active Communities Grant), adopted CSH and best practice approaches, participated in wellness initiatives (e.g., School Pedometer Challenge, Boom Boom Clap), and/or actively engaged students, parents and community in learning, planning, and sharing.

In PEI, project updates and board-specific findings were presented at principal and school board meetings, PEI Home and School Federation meetings, the PEI Teachers' Federation Annual Convention, as well as others. Case study participants felt that such presentations to school administrators and staff were particularly important as a means of building interest in SHAPES-PEI and clarifying the aims of the initiative, particularly the role of schools. While some stakeholders felt that these presentations were sufficient, others expressed a desire for more one-on-one conversations about the initiative and the resulting data. With respect to student engagement, students were engaged through a presentation at the PEI Student Leadership Symposium. This was one opportunity to present to students, albeit limited in effect. What was encouraging was that the students were very interested to know whether their school received a

SHAPES-PEI school-level report and wanted to know how they could access it. This reaction from students was also experienced during the student focus groups carried out as part of this case study. The SHAPES-PEI team continues to struggle with effective strategies for youth engagement and has plans in place for further research in this area. In order to encourage use of school and school district knowledge in PEI, the Department of Education and Early Childhood Development partnered with the Comprehensive School Health Research Group to develop and administer a School Health Grant Program, allowing schools to apply for funds to implement activities informed by their school-level results. The Department of Health and Wellness was also committed to supporting PEI schools and their use of the school-level reports and provided some funding for the School Health Grant Program. The program was first launched during the 2009-2010 school year and Comprehensive School Health Research Group staff contacted schools to encourage participation and offer to meet to discuss their school results. A total of 16 grant applications were received that year. The School Health Grant was offered again during the 2010-11 school year, with slight modifications. The process was the same as the previous year, however, due to two deadlines, an earlier launch, and increased awareness there was an increase in applications: 18 in the first round and 12 in the second round. That is, almost half of PEI schools (49%) took advantage of the School Health Grant Program. The program provides the most evidence to date of schools using their SHAPES-PEI results. One potential concern is that applications tend to be focused on healthy eating and physical activity rather than tobacco use or mental fitness. Case study participants felt that this may be due to the fact that healthy eating and physical activity are more familiar to schools and 'easier' to address. The SHAPES-PEI team has plans to modify the grant program to try to support and encourage thoughtful and creative uses of grant funds in ways that will best meet schools' needs.

In MB, the regional health authorities acted as KE brokers by distributing the feedback reports to the schools and school divisions. There was no formal process for KE nor was there any additional funding from PPHL for regions to do KE with the schools. Therefore, knowledge exchange activities varied by region, school division, and school depending on the capacity (human and financial resources) and competing priorities (e.g. regional health authorities-H1N1, Schools-completing curriculum, attendance, etc.). For many regional health authorities YHS KE was in addition to regular job duties and responsibilities. In regions where there was a single strong champion and/or buy-in from senior management, staff were able to do follow-up presentations or one-on-one meetings with school and/or school division staff. Some regions were also able to hold symposiums and health days with students to discuss and share the YHS findings. This required a lot of time and resources; but was critical for sharing the YHS information and creating time for school administrators to learn about their own data and understand the data in their local context (towards determining next steps). However, if the identified KE broker was different than the Partner in Planning for Healthy Living member they required support in interpreting and understanding the YHS results. Case study participants felt having the regions as the KE brokers was an opportunity to strengthen the relationships between health and education. Schools that have made the greatest strides in using the YHS data are those that have engaged students, have some financial resources (regional health authorities, community organization/foundations), and a contact at the region health authority who can support (with expertise, skills, tools) and collaborate with the school or school division staff. The Manitoba Physical Education Supervisors Associations (MPESA) and some school divisions took on leadership roles to encourage the use of the YHS results for school planning.

### *Provincial-level KE*

In NB, knowledge exchange activities related to the SWS/KE Initiative were initially coordinated through collaborative actions undertaken by personnel from the Department of Wellness, Culture and Sport and the Health and Education Research Group (HERG). On a provincial level, these knowledge exchange efforts focused on the application and implementation of SWS evidence to inform activities. KE occurred at wellness events with the newly established regional health authorities to encourage mobilization of regional health providers, educators and community partners in using surveillance results. In addition, numerous presentations were conducted with various government departments, health coalitions, NGOs, parent and education organizations (e.g., District Education Councils, Home & School Associations). A number of communities have utilized the SWS/KE findings for planning and implementing wellness strategies (e.g., Communities in *Motion*, Community Wellness Networks). HERG also collaborated with the Branch of Wellness to plan and carry out provincial-level KE, which clarified mental fitness, evaluated the school wellness grants, investigated student wellness committee development, and provided joint presentations to promote NB's Wellness Strategy and the SWS/KE Initiative as one of its' key project. Each year, new or refined SWS/KE knowledge products have been released electronically and in print throughout NB, using the existing networks such as, the Healthy Eating and Physical Activity Coalition, the NB Anti-Tobacco Coalition, the Children's Health and the Environment Network, the NB Health Charities Coalition. Through these multiple mediums, individuals, organizations, and coalitions acquire the SWS/KE findings and some further disseminate them throughout their work. In addition to provincial-level KE, the SWS/KE findings were presented at national and international conferences addressing research, mental fitness, regional risk factor surveillance, chronic disease prevention, tobacco control, children and youth health, school health and wellness.

Similarly in MB, effort went into making sure that youth health stakeholders received surveillance results and considered how to apply them towards action. PPHL and CancerCare Manitoba took the lead to disseminate provincial results and build awareness. An advantage of the formal PPHL partnership was the existing connections of several member organizations to other provincial groups in both health and education in the province. Several presentations have been made by PPHL to various government departments, regional health authority networks (Health Promotion Network, Planning Network), and community and education organizations (Healthy Together Now!, Manitoba School Board Association, Manitoba Physical Education Supervisors Association, government departments etc.). The YHS/PPHL "story" and provincial results have also been shared at international (BRFSS and WARFS), national (CARRFS) and provincial (Saskatchewan; Ontario) symposiums and conferences. The provincial report was also released at a joint press conference with announcements from Manitoba Healthy Living, Youth and Seniors, and from Family Services and Consumer Affairs (who is charged with the administration of the Liquor Control Act). This was significant as the department of Family Services and Consumer Affairs is not a PPHL member and yet saw the YHS results and committed to making a change in youth alcohol consumption by hosting a Youth Alcohol summit to determine how to move forward. The sharing of the YHS results has not only been important in creating awareness and encouraging use of the data at all levels but has also helped to build the credibility of PPHL as an organization. This has been important in engaging new members and end-users. PPHL is continuously seeking out opportunities to present the YHS.



In MB, some regions have had their own “release” of their regional data and received local media coverage. The regions that hosted a press release felt it was one method of putting pressure on the schools, communities, and RHAs to take ownership and commit to making changes in youth health behaviours. In addition, the results have been shared by the regional health authorities with community organizations.

Similar activities have taken place in PEI. Following the first year of SHAPES-PEI data collection, reports were distributed to schools, school districts, and the province. While provincial-level KE has always been important to the SHAPES-PEI team much more time and resources have been put into school-level KE. Provincially, the CSHR team has worked very closely with the School Health Specialist of the Department of Education and Early Childhood Development to plan and carry out provincial-level KE. While presentations and informal discussions of the initiative had taken place simultaneously with school data collection, the first major provincial-level activity occurred the following year upon the release of the provincial report. The provincial report was officially released at a media event with the Minister of Education and Early Childhood Development, the province’s School Health Specialist, the SHAPES-PEI lead researcher, as well as school principals, each of whom spoke to the importance and usefulness of SHAPES-PEI. This event was also the official launch of the PEI School Health Grant Program. The event attracted attention from all facets of local media including television, provincial newspapers, radio stations, websites, and one community newspaper. In order to build further awareness, the research team and Department of Education and Early Childhood Development presented the project and select findings to a wide variety of audiences. Project updates were provided to provincial government departments, committees, and teams. Presentations were made to stakeholder groups including the PEI Teachers’ Federation and the PEI Home and School Federation. The Comprehensive School Health Research Group also presented the project and results at academic conferences. These presentations continued the SHAPES-PEI team’s strategy of talking to as many relevant stakeholders as possible in order to raise awareness and support, as well as build understanding. Since the initiative began in 2008 we have seen a growth in understanding, interest, and uptake, thus, such presentations continue with a variety of stakeholders. They still focus on building awareness about the initiative and reports, as needed, but also on encouraging knowledge use for program and policy planning. The Comprehensive School Health Research Group and Department of Education and Early Childhood Development are currently planning for the 2011-12 school year which is expected to focus on continued knowledge exchange.

### *Lessons Learned*

- In each provincial site, knowledge exchange activities were intentionally identified and carried out based on the strategic processes within their respective provincial KE models.
- Regional and provincial champions were often identified as coordinators, hosts, and/or presenters at knowledge exchange activities, presentations or forums. These individuals used their own professional and personal networks to promote participation in these events and encourage knowledge use.
- Knowledge exchange activities were identified as beneficial for bringing together stakeholders and facilitating partnership development among health, wellness and education champions. In this regard, such events provided opportunities for encouraging

mutual understanding of complementary roles in school health and the link between youth health and educational outcomes of students at all levels.

- The use of a wide array of knowledge exchange activities was recognized as essential for extending the reach of youth health outcomes to diverse health, wellness, education, and community stakeholders. Knowledge exchange activities included: individual consultations with stakeholders; group presentations of school, district, and provincial outcomes; planning events on local and regional surveillance findings; and formal presentations and papers.
- The importance of engaging youth as key participants in understanding and using data was emphasized by all stakeholder groups from the provincial case study sites. Such engagement was viewed as critical for not only promoting interest in continued surveillance activities, but also for positively influencing student health and wellness practices at the school level.

#### *Contextual Variations*

- Resource allocations to support the initial KE activities differed across the various provincial sites. In Manitoba, regional health authorities played a central role in promoting surveillance and knowledge exchange activities within schools and communities. CancerCare Manitoba and Partners in Planning for Healthy Living took the lead in promoting surveillance and knowledge exchange at the provincial level (e.g. government departments and various education associations). In New Brunswick and Prince Edward Island, university collaborations with government departments assumed responsibility for the initial rollout of surveillance and knowledge exchange activities. In Prince Edward Island, the researchers partnered with and received funding from the Department of Education and Early Childhood Development. In New Brunswick, the Department of Wellness, Culture and Sport provided annual funding and leadership in partnership with researchers and in collaboration with other stakeholders from the health, education and community sectors.

#### E. Strategic Partnerships in Knowledge Exchange

Strategic partnerships refer to specific relationships or collaborations identified as playing a key leadership or influential role in advancing knowledge exchange in youth health. All three provinces recognized the need and value of strategic partnerships to help support and sustain their surveillance initiatives and KE systems.

Distinctive to MB is the formalized network of partner organizations -- PPHL. This network originated to help implement the provincial vision of chronic disease prevention system which is consistent, sustainable and integrated into planning cycles at all levels. Organizations and government departments signed a Letter of Understanding committing to the partnership for three years. The formalized partnership has built capacity in the province for risk factor surveillance by the pooling of resources. Each new partner to PPHL is committed to advancing chronic disease prevention in MB through supporting activities, sharing experiences with other partners and investing human, in-kind and/or financial resources for healthy living. PEI and NB have formal partners involved in funding and/or planning of their respective initiatives, but do not work within a large partnership structure as in MB.

In all three provinces, engaging partners was done through a variety of means including symposiums, one-on-one meetings, presentations and other forums that allowed for open dialogue and communication. An identified challenge with engaging partners is the time it takes to build the relationship. The current partnerships across the three provinces are diverse. In PEI, the research group is closely partnered with a provincial government department. In NB, the research group is closely partnered with several provincial government departments. For both PEI and NB, the team of partners then collaboratively engages others, including provincial partners, regional partners, school boards/districts/divisions, and school communities. In MB, the partnerships are at two levels: provincially with PPHL and locally between regional health authorities and their communities. All three provinces continue to seek out partners that share a common vision for youth health.

The table below highlights the similarities and difference in types of partners across the three provinces. A check mark indicates an existing collaborative partnership central to planning and implementing the KE systems.

Table 4. Collaborative Partnerships

	PEI	NB	MB (PPHL)
Provincial Government	√	√	√
Federal Government			√
NGO		√	√
Health Networks/Coalitions/Alliances	√	√	
Community Organizations		<i>* mainly use of results</i>	
Research Groups	√	√	
Regional Health Authorities/Zones	N/A	√	√
Schools/School Communities	√	√	
School Boards/Districts/Divisions	√	√	√
First Nations		<i>* mainly use of results</i>	
Education Associations		√	√

#### *Lessons Learned*

- Leadership and established collaborations at regional, provincial and interprovincial levels involving stakeholders with expertise in school health and wellness, education, and research and surveillance, were identified as critical for moving forward the preliminary promotion and actions related to each provincial knowledge exchange model.
- Regular face-to-face meetings and frequent personal contacts with strategic stakeholders was regarded as essential for building and sustaining relationships. Over time, such deliberations provided opportunities for clarifying and adapting goals, roles and partnerships to sustain surveillance and knowledge exchange activities.
- Each province recognized that developed partnerships within the Education sector were necessary for obtaining and sustaining the participation of schools and districts in ongoing surveillance and knowledge exchange activities. The nature of such partnerships included joint planning of surveillance approaches and timing, as well as negotiation of how data would be used and shared across regional and provincial jurisdictions.

### *Contextual Variations*

- The SHAPES Collaborative was identified as a strategic alliance in the development of surveillance and knowledge exchange capacity for New Brunswick and Prince Edward Island. In Manitoba, Partners in Planning for Healthy Living, a network of various nongovernment organizations, government and regional health authorities, was regarded as the central alliance for supporting the development of surveillance and knowledge exchange activities in Manitoba.

### F. Systems and Structures

Systems and structures refer to established or emerging KE networks or decision-making systems recognized as playing a key role in the development and expansion of knowledge exchange capacity.

PEI does not have a formalized structure to support the implementation of SHAPES-PEI. SHAPES-PEI developed out of informal partnerships, some of which have been formalized through contracts that outline funding and work plans. When asked whether they would like to see a formal structure of collaboration for youth/school health (e.g., a network) in the province, PEI case study participants felt there was a need to “formalize those discussions that we have informally so when the players change, those conversations continue in a formalized way.” Some participants were hesitant to form a new network or group before it was clear that there wasn’t already an existing body that could encompass the work. Others stressed the need for clear focus, scope, and membership of any new structure, while some felt that funding and resources would be key to sustaining any formal structure created.

In NB, knowledge exchange was identified as a guiding principle and surveillance, evaluation and research were identified as a strategic direction of the Wellness Strategy Framework; this approach was subsequently described and elaborated on through the development of the Wellness Strategy. The SWS/KE Initiative emerged during this process and was identified as a collaborative effort undertaken by authorities with the Department of Wellness, Culture and Sport in partnership with academics from the Health and Education Research Group, representing both the University of New Brunswick and Université de Moncton. The Wellness Strategy Framework from 2006 including its vision, goals, inputs, strategic directions (activities), participants, outputs, monitoring and indicators, provided an overview for the SWS/KE Initiative. The intent of the initiative was to contribute to the shared vision for wellness and healthy living across New Brunswick on four wellness pillars that included:

- To increase healthy eating attitudes and behaviours;
- To increase physical activity;
- To promote tobacco-free living; and
- To enhance mental fitness and resiliency.

The attainment of NB’s Wellness Strategy’s vision and goals was viewed as a comprehensive effort involving the engagement of a wide range of community, regional, provincial and federal organizations and stakeholders, including schools and workplaces. Participants within these organizational systems were recognized as important champions for promoting wellness in their respective contexts. Strategic directions and related activities included a focus on the formation of partnerships and collaborations among stakeholders, as well as the development of local

community and regional capacity. Central to these actions was the execution of surveillance and knowledge exchange activities that reflected outputs linked to moving knowledge into action. Example outputs related to knowledge exchange included surveillance and monitoring reports, health behaviour wellness reports, mobilization committees, and strategic action plans. Finally, the framework outlined key indicators including those focusing on short-term, mid-term and longer-term areas of change. The outcomes focused on moving from awareness, to building capacity to take action, through engagement, to longer term individual, community and system level commitments to participate and sustain healthy lifestyle behaviours and choices. Hence the Wellness Framework (logic model) helped formalize the structures and systems that were adopted by the SWS/KE Initiative, which was a key component of the Wellness Strategy.

Annual funding provided by the NB Department of Wellness, Culture and Sport – Branch of Wellness supports the implementation of the SWS/KE/KE Initiative. In addition, strategy documents from the Departments of Health and Education identified the Department of Wellness, Culture and Sport as a key partner in the promotion of health, and of student well-being and learning. Within these documents, partnerships and collaborations related to SWS/KE Initiative are evident as a result of:

- Inclusion of content regarding the promotion of the four wellness pillars (healthy eating, physical activity, tobacco-free living and mental fitness);
- Promotion of key processes related to knowledge exchange such as knowledge mobilization, information transfer, school-based and community wellness planning activities, comprehensive school health, engagement of youth and families, and sharing and networking; and
- Stated commitment to integrate results of the student wellness survey in the development of wellness-based activities in schools and communities.

Although the SWS/KE Initiative is formalized through existing systems and structures, stakeholders recognized the value of a youth health network as a possible strategy for creating linkages among key regional and provincial stakeholders which could help in coordinating surveillance and knowledge exchange activities being implemented across provincial regions. Potential features of a network included: consultation with stakeholders in setting directions for the network; the direct engagement of youth in providing input on priorities and activities; and increased use of online social media approaches (Wiki spaces and websites) for the promotion of health information and better practices.

MB has a larger and more formalized structure that supports community risk factor surveillance, including the generation of practice-based evidence and evidence-based practice. PPHL originally started with four partners and have grown to over 23 partners including, NGOs, various government departments and all 11 MB regional health authorities. See Appendix C for a complete list of current PPHL partners. As the YHS rolled out across the province, Partners in Planning for Healthy Living grew. PPHL expected member organizations to engage with PPHL and contribute to the ongoing work. As more partners became part of PPHL, a formalized structure began to emerge with several working groups under the leadership of a chaired coordinating committee with leadership from one of the NGOs as the host organization. PPHL currently has five formal working groups and a coordinating committee each with clearly defined tasks and Terms of Reference. These working groups and formalized meetings create a sharing

platform which has increased capacity to implement a KE system. In addition, the many working groups allow for more meaningful member engagement and opportunities for RHAs, NGOs and government to take on leadership roles as they identify and contribute to the pieces of work that complement their skill sets, knowledge and interest. The opportunity for multi-level leadership creates non-hierarchical relationships with distribution of power and decision making creating a sense of equality and ownership by all partners. The challenges with a formal structure are diversion of time and resources from actual work to 1) maintain the partnerships 2) engage members and 3) ensure communication within the structure. To help alleviate the burden PPHL found resources to hire a part-time coordinator whose duties are to help with administrative task, support and ensure smooth communication across working groups.

### *Lessons Learned*

- The Centre for Behavioural Research and Program Evaluation (now Propel) at the University of Waterloo, funded by the Canadian Cancer Society, provided the initial network structure (SHAPES Collaborative) from which to initiate and foster relationships among research, policy and practice stakeholders related to youth health. These national networks helped contribute to the partnerships that initially moved surveillance and knowledge capacity forward in the case study provinces.
- Health coalitions, groups, networks and initiatives comprised of government and nongovernment stakeholders across each of the provinces made use of youth health surveillance data for planning and promoting healthy life style behaviours among youth, families, and communities in their respective regions. Youth health surveillance outcomes were also used within reports and plans to leverage both in-kind and financial resources to support regional knowledge exchange and better practice initiatives.
- Surveillance and knowledge exchange activities were also identified as supporting the development of multiple types of youth health and wellness planning committees and structures at the school, district and regional levels. Such committees recognised the value of sustained surveillance and knowledge exchange activities and its relevance to their continued decision-making processes over time.

### *Contextual Variations*

- Manitoba formalized its structure (Partners in Planning for Healthy Living) with terms of reference, signed membership agreements, and working groups with multiple partners that had direct links to many established networks.

### G. Knowledge Exchange Impacts

KE impacts refer to concrete ways in which surveillance outcomes or knowledge exchange activities have contributed to embedding or linking knowledge to action processes within existing or emerging planning and decision-making systems.

### *Grant Programs*

All three provinces identified financial support as a critical component to moving evidence to action. PEI, in partnership with their provincial government, implemented the PEI School Health Grant Program to support direct use of survey results. The grant program continues to be offered each year, with increased uptake. Providing schools with the guidance and support needed to creatively and effectively apply their grant funding has been a challenge and there are plans to

modify the program for 2011-12. In NB, three NB school grant programs pre-existed the SWS/KE Initiative for different grades and health behaviours (e.g., tobacco in 2002, physical activity in 2002, and healthy eating in 2005). Schools needed data on multiple behaviours and the SWS/KE Initiative helped to support this need and helped to identify wellness priorities. In 2009, NB merged their three school grant programs into a single NB School Wellness Grant for K-Grade 12 to align with the four pillars of the Wellness Strategy and encouraged the use of evidence, like the SWS findings, for action planning and activity monitoring. Continuing integration of the SWS/KE Initiative, the School Wellness Grants, the School and District Improvement Plans and Community Wellness Strategies will help to advance moving evidence into action. In MB, there is a provincial grant program (Healthy School Grants) which supports school initiatives that promote healthy behaviours. At this time, utilizing the YHS data although encouraged is not a requirement to receive funding although this may be something to explore in the future. Strengthening the link between the Healthy Schools grant and the YHS data may encourage knowledge utilization and mobilization.

### *Sharing Success Stories*

Schools in all three provinces identified the need for support in determining how to move evidence into action. As one case study participant stated in PEI “an area for improvement is always taking the research and tying it to solutions or practical strategies. Because it is all well and good for me to know that we should be doing this or doing that, but how do I make that actually happen in a school setting?” It was suggested that this support could involve personal follow-up and discussions to help schools understand the data and identify next steps. These insights have informed planning of the upcoming 2011-12 SHAPES-PEI knowledge exchange year. In addition, some school-based case study participants suggested sharing ideas for action would be beneficial to help give them some ideas on how to use data and avoid duplication of work. In MB, this has been achieved through posting and sharing success stories on the PPHL website, at the CDPI/Healthy Together Now Share and Learn and at the Healthy Schools conference. MB is also currently producing a short video highlighting how some schools have used the YHS data. NB evidence and success stories have been shared through KE activities and websites of both HERG and NB Branch of Wellness. Stories and ideas are also shared on the Healthy Learners in School Program portal, the Education portal, and various school and district portals. Also, informed by a stakeholder survey conducted by HERG, the NB Branch of Wellness developed a School Wellness Programs e-newsletter that gathers and communicates successes, ideas, evidence, announcements, etc., to all schools and others serving NB schools. In PEI, school stories are currently being collected for the purposes of sharing.

### *Provincial-level Impacts*

The NB Department of Health’s province-wide Healthy Learners in School Program at the district/school levels remain avid users of the SWS/KE findings and knowledge; it is entrenched in their planning, executing and monitoring of their yearly work, at monthly meetings and annual workshops, and while facilitating use by schools and districts. Also unique to NB is the engagement of two health coalitions as leaders in knowledge mobilization. Unlike MB, these coalitions do not oversee the SWS/KE Initiative, but are active KE partners in utilizing and mobilizing the findings. The Healthy Eating Physical Activity Coalition of New Brunswick has contributed to enhanced knowledge exchange as a result of the establishment of wellness networks throughout the province (13 regional networks including both Anglophone and

Francophone regions). The NB Anti-Tobacco Coalition also championed the Wellness Strategy and used the SWS findings during their annual forums and community planning sessions hosted province-wide. The SWS evidence has been cited in a number of provincial documents and reports (e.g., the Office of the Child and Youth Ombudsman annual reporting on the state of NB children and youth, the New Brunswick Health Council report of youth health). The SWS findings were also used in documentation supporting provincial initiatives, such as, the Smoke-free Vehicles legislation introduced by the Minister of Health, the Integrated Service Delivery and the Provincial Healthy Learners in School Program Open Space Networking Meeting. Because the SWS/KE Initiative originated as an integrated part of the implementation of the Wellness Strategy, it was envisioned that everyone had a role in promotion of wellness, so much of the work at the Branch of Wellness was to collaborate with key and strategic partners across government and NGOs; such that, during presentations, meetings and round tables where the Wellness Strategy was presented/discussed, there was always a conversation about the SWS/KE Initiative and the SWS findings which often led to further dialogue and interest in using, promoting and sharing the information by and with others.

In MB, the government has committed to reducing alcohol consumption, which was identified as a concern from the YHS data. Also, the Healthy Child Manitoba office has requested some secondary analysis of the YHS data for planning purposes which will cross nine different government departments. As a member of PPHL, the Healthy Child Manitoba office is in a unique position to promote YHS data use and to address issues that are evident from the data. PPHL also works closely with the Healthy Together Now initiative, which is a unique, government-supported program that is regionally-coordinated and community-led. Intersectoral committees in 83 communities in 10 Regional Health Authorities provide guidance in gathering and sharing evidence with their community to encourage communities to take the lead in planning/prioritizing chronic disease interventions. Healthy Together Now is working with PPHL in building community capacity to use the YHS data to help communities target chronic disease risk factor behaviours.

### *School-level Impacts*

There are several common challenges across the three provinces relating to their respective education systems. All three provinces identified high school staff turnover and lack of time as challenges when working with schools. The high staff turnover rate in schools means new relationships have to be continuously built. In addition, the intimate knowledge and understanding of the initiative is lost. Likewise, a strong, respected team of researchers and knowledge brokers, with continuity of personnel, is important in building trusting relationships. This can be challenging with soft funding, year-to-year contracts, and/or piecemeal funding arrangements.

Schools also identified a lack of time to process the survey results and reports which is often due to focus on academic achievement and other competing priorities. What all three provinces have learned is that such initiatives work best when framed as complementary to work that is already going on within schools and/or the province. In NB, KE efforts further enhanced the links to student wellness and academic achievement by addressing the topic during all presentations, adding survey questions related to academic performance, revising feedback reports to include



information on the relationship, and this year, embedding the SWS with Education's Student and Parent Perception Surveys on School and Academic Satisfaction.

Schools face many competing demands with curriculum requirements, storm days and other events happening within the school and it is important to understand and respect the realities of schools and school administrators' roles. Taking care to align activities in meaningful ways and to avoid overwhelming school personnel with additional demands is important. Being clear at the outset about what school principals, teachers, and students will be required to do is helpful, and often schools are more receptive to initiatives such as these which provide school-level results back to schools and which are multi-year initiatives. Research fatigue is also having an impact upon participation in surveillance projects, for example, in both NB and PEI the province has opted-out of some research that does not meet current needs, does not provide meaningful benefit at the school or regional level and duplicates or contravenes provincial efforts. In addition to research fatigue and lack of time, there is also pressure on schools to focus on educational outcomes, which sometimes means health is sidelined. An additional challenge in PEI, according to case study participants, was that, while there are some notable exceptions, neither the school system nor the schools are prioritizing student health as much as they could be or as much as some stakeholders would like.

#### *Lessons Learned*

- In each of the provinces, grant programs that were linked with school health surveillance contributed to increased uptake of knowledge exchange reports and the use of evidence to plan school and regional actions on youth health and wellness.
- Stories of success, especially those involving the development and implementation of comprehensive or whole school approaches based on use of surveillance data, and framed as complementary to existing programming and policies were identified as important sources of motivation and learning for youth health, wellness, education and community stakeholders across regions.
- The repetition of the surveillance and knowledge exchange activities provided an important foundation for building and sustaining school health partnerships within each provincial site. In contrast to collaborations ending at the close of a single surveillance project, youth health partnerships continued to evolve and expand with increased experience from working together on common surveillance and knowledge exchange activities.
- The use of youth health data by departmental stakeholders to set regional and provincial health and wellness plans and priorities, as well as to establish program benchmarks was recognized as contributing to wide-spread support for sustaining school level surveillance and knowledge exchange activities.

#### *Contextual Variations*

- In New Brunswick, youth health data from the Student Wellness Survey (SWS) was not only used by the Department of Wellness, Culture and Sport, but also by departmental stakeholders in education to establish provincial benchmarks and was adopted by some stakeholders for school/district improvement planning and priority setting. In addition, a number of external organizations annually cite the SWS findings in their reports (e.g., the

Office of the Child and Youth Ombudsman annual report on the state of NB children and youth, and the New Brunswick Health Council report of youth health).

#### H. Issues or Concerns

Issues or concerns refer to potential challenges to the development, maintenance or expansion of youth health surveillance and knowledge exchange processes.

##### *Working within Existing Systems*

All three provinces recognized the value of working within existing systems of education, health and wellness, but noted issues with small samples, geographical boundaries and priority setting.

##### *- Feedback Reports for Small Schools (MB, NB, PEI)*

All three provinces maintain anonymity and confidentiality of the students who participated in their surveys by adhering to established ethical practices. However, working within the education system means some school samples are too small to create a school-specific feedback report since teachers and staff would be able to identify students within the findings. For example, in Manitoba, the data from smaller Hutterite colony schools that are in close proximity were combined into one report. When small schools were not in close proximity they were encouraged to use division reports. Although neither is ideal for a small school it was the best available solution. Similarly in PEI and NB, small schools received district-level reports and were encouraged to use those in addition to any school-specific data they had from other sources for planning. When small schools have voiced concern that they would not receive a school-specific report, the research team has made efforts do some school-specific reporting if possible or has offered to look at the data to see whether that school's data reflects similar findings to those in the district report they receive. For some schools this may negatively affect their experience and influence their decision to participate in the future.

##### *- Geographical Boundaries between Health and Education Systems (MB, NB)*

Geographic boundaries have presented a challenge in MB. School divisions can cross many regional health authorities; therefore, all processes become more difficult as the school division has to coordinate with more than one regional health authority. When having to prioritize resources and staff time regional health authorities chose to allocate their efforts to school divisions that fell completely within their geographic boundary. Similarly in NB, the Regional Health Zones do not align with School Districts, thus requiring secondary analysis when communities want to examine a specific population within their catchment. Another challenge is the urban and rural split, where access to infrastructure, resources, champions and/or leadership can be a limitation.

##### *- Lack of Strategic Priorities in Youth/School Health (PEI)*

In PEI, there is a sense that school health is not a strategic priority for the province and, consequently, for the education system and schools (though there are local/individual exceptions). The SHAPES-PEI team has found it challenging to effectively communicate the link between health and academic achievement in a way which would inspire the prioritization of health within school settings. While there is support from particular stakeholders, there continues to be much more work needed to institutionalize school health as a legitimate priority for chronic disease prevention, as well as more generally for schools,

school boards, and the province to consider. Without this understanding and a sense of the importance of health to educational outcomes, it is more difficult to garner support for the surveillance and KE activities being implemented and to encourage use of the existing data.

In Manitoba, the school level case study participants indicated that they have a commitment to school health and that this commitment to youth health was in place before the dissemination of the YHS results. It may have emerged from the MB government's commitment to healthy living including the Healthy Schools Initiative and grant program, implementation of school nutrition and physical education policies, and from champions in organizations like the Manitoba Physical Education Supervisors Association. Many school case study participants see the data as complementing and informing the work they already do. From the case study it appears that there is not a lack of school health priority but rather a gap in KE of YHS at the regional health authority level. Where there are more dedicated resource and staff time there are increased KE activities but this is not consistent across the province.

Likewise in NB, a number of previous initiatives, programs and policies contributed to initiating and sustaining commitment to student wellness; encouraging local engagement and planning; focusing upon evidence-informed practice and practice-based evidence; and monitoring and evaluating activities. A few examples include the Healthy Learners in School Program (piloted in 2000), the Tobacco-Free Schools Initiative (launched in 2000), The Comprehensive School Health Training (2001), the Community Schools in Action Program (piloted in 2002), and the Tobacco-Free Schools Policy 702 (2001) and Healthy Eating Policy 711 (2005).

#### *Survey Administration and Fatigue (MB, NB, PEI)*

As discussed previously, another challenge for all three provinces has been school-level survey fatigue. Schools are constantly being recruited to participate in research and surveys. In some instances, multiple surveys were carried out during the same time periods and school personnel expressed concern regarding the loss of educational time for students. Participating in surveys is time-consuming and burdensome for school staff and students. The level of burden increases when the same survey is administered from elementary to high school grades. Differing literacy levels means that some students may require assistance and take longer to complete the survey. This can be a challenge for those administering the survey (e.g., teachers) and can affect the quality of the survey data, e.g., missing or incomplete data. In addition, it takes school administration time to coordinate and implement the survey, so prior notification is required. In MB, because survey completion is strongly encouraged by government, school divisions/ departments have requested advance notice of survey implementation so that the survey can be incorporated into school planning.

In PEI, school boards are notified in advance of the school year and their permission is requested prior to approaching school principals (each school board has a different process for this). Despite research fatigue, the PEI school boards and many schools have been supportive of SHAPES-PEI and have compared it favourably against research that does not provide information and data back to individual schools. Understanding the burdens that schools and their staff face, the SHAPES-PEI team ensures that the survey implementation is as clear and organized as possible. Case study participants who were involved in the survey voiced their

appreciation of the highly organized nature of the implementation and of the continuous clear communication from the research team. In NB, survey completion is strongly supported and approved by government, with education departments providing notification to school districts in advance, followed by HERG's invitation for alignment with district planning, all prior to any distribution of school invitations or reports. NB stakeholders identified the SWS findings (especially school/district level reports) and the support provided through the SWS/KE Initiative as extremely valuable and essential to advancing their work in student wellness, school health and educational outcomes.

#### *Sustained Funding (MB, NB, PEI)*

Sufficient multi-year funding will help to accelerate the process and the integration of the KE systems. However, all three provinces have experienced challenges with respect to securing and maintaining committed long-term funding. In Manitoba, the YHS has been made possible through donations (both in-kind time and financial) from partners. Therefore it is difficult to prepare and plan for the next cycle and to create a sustainable system that is integrated with planning cycles and facilitates knowledge activities.

In contrast, PEI has received a multi-year funding commitment from the provincial government, with the initiative becoming a budget item in the Department of Education and Early Childhood Development budget for the 2008-09 fiscal year. The amount available is reviewed and determined on a yearly basis. Despite the promise of multi-year funding, ensuring adequate funding and sustaining that funding remains a challenge. From the outset, implementing SHAPES-PEI has depended on leveraging funds through concurrent implementation of Health Canada's Youth Smoking Survey (YSS). With ongoing changes to the federal government's tobacco strategy it is unknown how stable that funding is or how changes to the YSS might impact SHAPES-PEI.

Likewise, New Brunswick has benefited from annual funding provided by the Department of Wellness, Culture and Sport – Branch of Wellness, with a multi-year commitment from the provincial government, beginning in the 2006-07 fiscal year. This funding is augmented by in-kind resources provided by staff from government departments (e.g., Wellness, Culture and Sport; Education; Health), who help implement and contribute to several processes within the SWS/KE Initiative, including facilitating data collection, reviewing survey instruments, refining knowledge products, providing knowledge exchange and action planning. However, the demands upon public funds and nature of changing government and departmental priorities, introduce an expected level of uncertainty for sustained funding. Despite these challenges, all three provinces have not allowed funding to become an insurmountable barrier, by leveraging partnerships, and seeking in-kind services and other funding (e.g. NGOs, research grants).

#### *Human Resources for KE (MB, NB, PEI)*

In relation to the funding issue is the need for additional human resources for knowledge exchange and mobilization of knowledge into action, which is greatly impacted by changes in personnel and/or loss of knowledge exchange champions at any level.

In NB, some youth health stakeholders reported that members of the Department of Wellness, Culture and Sport and the Health and Education Research Group had played key roles in

providing explanations of school and district feedback reports to school health champions. Others emphasized the need for continued support beyond these knowledge exchange sessions to further engage stakeholders in taking action. Concern was expressed over the disparity between schools that have dedicated Healthy Learners in School staff (school level) in comparison to schools with Healthy Learners in School staff (district level). Many remain committed to work on student wellness ‘off the side of their desk’, but recognized the limited number of positions or time available to work on student wellness or school health.

In MB, knowledge exchange was inconsistent across regional health authorities. One region prioritized YHS and, therefore, dedicated staff and resources. This region has promoted the YHS results and has implemented programs in partnership with schools and communities. However, in other regions, KE with schools is in addition to their regular workload. Also, the regions that span large geographical areas have identified the need for additional resources to cover the costs of travel to schools.

PEI has found that it can be difficult, particularly for school administrators, to move from evidence to action. While the Department of Education and Early Childhood Development (and, more recently, the PEI Department of Health and Wellness) has contributed funds to establishing the School Health Grant Program, human resources continue to be necessary in this area. Case study participants stressed the need for one-on-one conversations about survey results and possible next steps, as well as for helping to identify community-based resources that could support school activities. Many school health stakeholders were frustrated with the fact that there are so few people whose job it is to focus on youth or school health. The province has one School Health Specialist who works with all Island schools, while also acting as an important link between the education and health sectors and between research, policy, and practice. Human resource challenges are also faced by the research sector where it can be difficult to sustain staffing with fluctuations in funding from year to year and the constant need to secure additional funding.

#### *Clear Communication*

The challenges of clear communication was recognized as a concern requiring the ongoing attention of all three provinces, whether engaging diverse partnerships, seeking to understand terminology (language, jargon, corporate speak, etc.) or exploring emerging concepts (e.g., knowledge exchange, mental fitness).

#### *- Maintaining Diverse Partnerships (MB, NB, PEI)*

Challenges were identified with regards to establishing and maintaining the diverse partnerships and communications required for implementing a knowledge development and exchanging system. While PEI stakeholders generally feel that there is good work being done in youth and school health, many suggested that stakeholders still struggle with KE. As one participant said, KE “tends to be a piece that we do not do very well, just overall” and others suggested that youth health stakeholders do not always communicate effectively. Stakeholders continue to discuss the potential benefits of establishing a more formalized partnership structure. In addition to the challenges of communication between stakeholders in different sectors and settings, engaging parents and students has been particularly challenging. Ways to further develop avenues for working with these groups, while maintaining focus on other

critical relationships, are constantly being explored. Similarly in NB, is the challenge of meeting the needs of the language/cultural demographic and the urban/rural split. Anglophone, Francophone and First Nations schools/communities operate within unique systems, separate government departments, distinct academic curriculums, and often similar but very different priorities for student wellness. In MB, challenges were identified in regards to ensuring the flow of information across the various working groups and members.

*- Understanding Mental Fitness (NB, PEI)*

Disseminating and sharing youth health information and related results was identified as an ongoing issue. Youth health stakeholders in PEI and NB affirmed the importance of mental fitness and its relevance to other health behaviours; however, they also noted that the concept was more difficult to understand and communicate to others. In NB, the mental fitness graphs in the 2006-2007 report were difficult to interpret in terms of defining high and low mental fitness levels and their implications for student wellness. The development of cut-off scores for low, moderate, and high levels; its' relationship to the other health behaviours; and the introduction of the mental fitness workshop and resources was reported to have increased understanding in recent school feedback reports and fact sheets. Work continues in both provinces to help build understanding of mental fitness and associated concepts, as well as to support schools in their efforts to implement activities aimed at addressing the issue.

*- Electronic Access to Feedback Reports (NB, PEI)*

Both NB and PEI stakeholders communicated challenges with accessing feedback reports or profiles, even though stakeholders could retrieve their reports from a project website using a secure password. While providing reports online can be beneficial since it can be cost-effective and, in some ways, logistically easier (e.g., quicker to produce reports and make them available), many in NB and PEI indicated experiencing difficulty using or accessing the passwords to download their school feedback reports. In some instances, participants indicated that passwords had been sent to school administrators who omitted sharing them with other school health stakeholders, while in other cases passwords were simply misplaced. Similarly, when administrators changed positions or moved to another school, passwords were either lost or not passed on to new principals. To try to remedy these problems, PEI and NB send reports/profiles in PDF format to all participating schools by email. PEI also provides a username and password (in every email correspondence) which allows the school to access all current and past reports for their school if they desire.

*Lessons Learned*

- **Working within existing systems** of education, health and wellness posed challenges for decision-making, resource allocation, joint-planning, and priority setting, notably when recognized priorities and/or geographical boundaries of systems do not align. Concerted efforts were required to understand each system, establish collaboration and achieve coordination to advance youth health surveillance and knowledge exchange.
- **Survey fatigue** was reported by schools from each provincial jurisdiction due to the requests and/or demands for completion of many different surveys. In some instances, multiple surveys during the same time periods and caused concern regarding the loss of educational time. Mitigating the burden to schools and promoting the merits of youth health to impact academic achievement was deemed important for sustaining capacity.

- **Sustained funding** for continued surveillance and knowledge exchange activities was raised by multiple stakeholders across provinces. Although the recognition of the importance and benefits associated with youth health surveillance and knowledge exchange has increased, established mechanisms for multi-year support of such efforts was identified as a critical consideration for moving forward in each jurisdiction.
- **Human resources in KE**, such as, changes in personnel within strategic partnerships, resulted in additional time and effort required to re-inform and renew commitments to youth health surveillance and knowledge exchange. Loss of knowledge exchange champions in health, wellness and education sectors posed challenges for maintaining important stakeholder partnerships, corporate memories and stories of success related to surveillance and knowledge exchange activities. Human resources in KE were identified as essential to sustain capacity and advance youth health and wellness.
- **Clear Communication** was recognized as critical to maintain diverse partnerships, understand terminology and explore emerging concepts (i.e., mental fitness). Successful communication across provincial contexts, government departments or sectors, jurisdictions, organizations, and research, policy and practice required ongoing contact with a variety of partners. Ongoing KE was identified as being essential to building mutual understanding; seeking clarification of meanings, applications, and subtle differences; and responding to the needs of intended audiences.

## IMPLICATIONS AND APPLICATIONS

Upon completion of the provincial case studies and cross-case comparison, the Aim 2 Working Group has identified a number of implications for those interested in learning more about youth health knowledge exchange or implementing youth health knowledge exchange systems within their own jurisdictions. Along with the findings and lessons learned already reported, these implications suggest some potential areas for attention and/or further exploration.

### Future Research Directions

- **Partnership:** Based on the findings from our research next steps include identifying, developing, and testing partnership tools and models that facilitate and support youth health KE processes.
- **Environment/Context:** Develop an intervention study to effectively capture the uniqueness of diverse environments and contexts (e.g., at school-level, family of schools level, municipal-level, etc.), and how to adapt lessons learned to existing contexts.
- **Readiness:** Conduct synthesis studies to enhance our understanding of readiness for youth health KE, and explore readiness for KE in diverse contexts (e.g., complex environment, diverse settings, across provinces, international, etc.).
- **Knowledge Uptake:** Examine evidence of knowledge uptake in diverse jurisdictions and within complex situations (i.e., evidence to action) and develop processes and tools to enhance uptake in youth health KE systems.
- **Advance KE Research:** Promote KE research and collaborative work as critical elements of scholarship and research that is recognized within academic institutions.

- Communicate the importance of funding initiatives such as CPAC funding for the YE CLASP as instrumental to enhancing and strengthening the KE in, and across, provinces to help build understanding of youth health KE processes and intricacies.

### Implications for Development of Surveillance and Knowledge Exchange Systems

Each jurisdiction must take into account the complexity of their local context and systems. In this study, we found that despite all three provinces approaching KE in different ways, they have implemented comparable KE systems. While each province was guided by a conceptual framework, they differed in the way the frameworks have been applied. These differences can be seen in diverse approaches to partnerships, end-users, funding, leadership, data ownership, KE and infrastructure. It is also evident in how each system was established within the province (i.e., whether as a province-wide census from the beginning or, at first, starting on a smaller scale). While these context-specific approaches were critical to the successes realized in each of the case study provinces, there are overarching factors found within all three provinces that are important to emphasize, both in early stages and as the initiative evolves. The following provides a summary of implications that may be relevant to other provincial jurisdictions as they undertake plans and actions related to youth health surveillance and knowledge exchange.

#### *Develop a Conceptual KE Model*

- The use of a knowledge exchange model may assist stakeholders in understanding, becoming involved with, and sustaining their participation in knowledge-to-action activities related to youth health. Adopted knowledge exchange models should move beyond being simply a system for gathering data and producing reports to include emphasis on partnership development, expanded knowledge sharing activities, and comprehensive policy and practice initiatives designed to move knowledge into action.
  - Several KE models are in existence. Build on the strengths of the available KE models within your own jurisdiction, or borrow and adapt well-developed models.

#### *Identify and Engage Passionate Champions*

- Building on existing youth health/wellness networks and champions at local, regional and provincial levels is essential for eliciting widespread support and advocacy for implementation and continuation of surveillance and knowledge exchange activities. Engaging such networks and champions requires promoting the value of evidence-based decision making and the need for accessing and understanding local data.
  - Champions can act as catalysts, by leading by example and/or by mentoring across local (i.e., schools), municipal, regional, provincial, national, and international levels.

#### *Build on Successes*

- When government and other stakeholders use youth health data to develop local, regional and provincial health/wellness plans, and to establish program benchmarks, the recognition of the value of school-level surveillance and knowledge exchange activities is enhanced.
  - Successes arising from previous experiences with health-related surveillance activities, evidence to action planning, and deriving evidence from action can generate commitment and support for youth health/wellness surveillance and knowledge exchange.



### *Build Partnerships*

- The engagement of leadership from various stakeholders (e.g., NGOs, professional organizations, government, community, researchers, etc.) with expertise in school health, youth health/wellness, education, and research and surveillance is critical for building capacity to initiate preliminary actions related to province-wide surveillance and knowledge exchange activities.
  - Partnerships can build capacity through the leveraging of funds and resources (i.e., knowledge, experience, human or financial) to help support and sustain a KE system.
- Positive working partnerships within the education sector are critical for obtaining and sustaining the participation of schools and districts in ongoing surveillance and knowledge exchange activities.
- Expectations for collaborative actions should be articulated via a mutual and respectful process where all partners feel valued and welcomed to contribute.
  - Key collaborative actions with all partners should include joint planning of surveillance approaches and their timing, as well as how data will be used and shared across local, regional and provincial jurisdictions. This will help to create credible valid information that is trusted and useful to stakeholders.
- Repetition of surveillance and knowledge exchange activities is necessary for sustaining youth health partnerships. Such partnerships, especially in school health and education, evolve and expand with increased experience working together on common surveillance and knowledge exchange activities.

### *Tailor KE to Diverse Stakeholder Groups*

- Knowledge exchange products should be tailored to engage the interests and address the needs of various stakeholder groups. Appealing features of such products include the use of familiar language, the inclusion of sample better practices, the incorporation of practice-based evidence or success stories, and the availability of reports, summaries or fact sheets in multiple formats and locations.
- The use of a variety of knowledge exchange activities is essential for reaching diverse education, health, and community stakeholders. Examples of knowledge activities include individual consultations with stakeholders on youth health/wellness outcomes and better practices, group presentations of school/district/provincial outcomes, events based on local and regional surveillance findings, and formal conference presentations and papers.

## **NEXT STEPS**

The intent of the cross-case study comparison was for others to gain understanding of developing KE capacity to accelerate KE development in their jurisdictions. The lessons learned from the cross-case comparison will be shared through presentations at the National Youth Health Forum (October 25-26, 2011), national and provincial symposiums and conferences, as well as through peer-reviewed publications.

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# APPENDIX A: Provincial Knowledge Exchange Conceptual Frameworks

## Manitoba

The conceptual model in Manitoba ensures that communities, regional committees and organizational/government partnerships and policy makers at all levels have access to community-specific risk factor surveillance information, their own local program evaluation information, and practice-based evidence for intervention, program and policy development. All data and information is to be integrated within a systematic evidence-based program planning framework.



Figure1: Manitoba Risk Factor Surveillance Conceptual Model

New Brunswick

The knowledge development and exchange framework used in New Brunswick integrates activities of the NB Student Wellness Surveillance and Knowledge Exchange Initiative within a three year cyclical process (Fig. 2). In addition, New Brunswick has contributed to and applies the SHAPES Knowledge Development and Exchange Model (Fig. 3). View the Wellness Strategy Framework at <http://www.gnb.ca/0131/wellness-e.asp>



Figure 2: New Brunswick Knowledge Exchange and Research Uptake Model

Prince Edward Island

Prince Edward Island does not explicitly use a knowledge exchange model; however, SHAPES-PEI activities are conceptually guided by the SHAPES Knowledge Development and Exchange Model (Fig. 3):

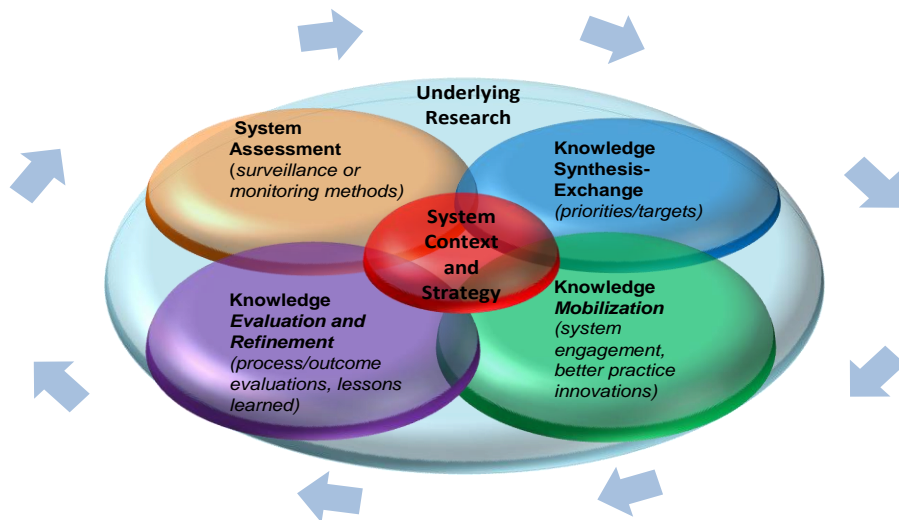


Figure 3: Knowledge Development and Exchange Model (illustrative)

## APPENDIX B: Youth Excel CLASP Cross-Case Lessons Learned

### Youth Excel CLASP Cross-Case Study of Knowledge Exchange Capacity Within Three Provinces: Manitoba, New Brunswick, and Prince Edward Island *Lessons Learned*

The following table provides a summary of lessons learned that are extracted from the Youth Excel CLASP (Coalition Linking Action and Science for Prevention) Cross-Case Study of Knowledge Exchange Capacity Within Three Provinces: Manitoba, New Brunswick, and Prince Edward Island. The cross-case comparison of the three provincial knowledge exchange (KE) systems used an eight category framework for organizing data and identifying convergent lessons learned. Lessons learned were defined as key conditions or processes contributing to the development of knowledge exchange capacity across at least two provincial contexts as experienced and shared by health, wellness and education policy makers, practitioners and researchers from their respective regional jurisdictions. A concise description of each category follows with identified lessons learned, including noteworthy variations that describe specific provincial contextual details further informing insights gleaned from this study.

**A. Guiding Knowledge Exchange Models:** KE models refer to existing system frameworks that identified key processes, people and contextual conditions necessary for knowledge development and moving knowledge into action.

- All case study provinces identified an underlying KE model that illustrated the intent, stakeholders, processes and activities deemed essential for moving knowledge into action. KE models moved beyond being simply a system for gathering data and producing reports to include emphasis on partnership development, expanded knowledge sharing activities, and comprehensive policy and practices initiatives designed to move knowledge into action.
- The notion of repeating the KE processes for each model over specific time periods was recognized as essential for embedding knowledge-to-action activities within existing planning and decision-making cycles or approaches among multiple youth health, wellness and education stakeholders.
- The use of KE models assisted the case study provinces and health, wellness and education stakeholders in communicating and understanding their potential roles in developing, sharing or applying knowledge pertaining to youth health. In this regard, the various provincial models provided a resource for clarifying roles and building key collaborations among youth health, wellness and education stakeholders.

#### *Contextual Variations*

- Although each provincial case study identified the benefits associated with having an underlying KE model, the timelines assigned to the KE processes during a given cycle varied, reflecting regional differences related to the availability of financial resources, the timing of planning cycles of various government departments, and the nature of competing demands associated with accessing and collecting youth health data.

**B. State of Readiness:** State of readiness refers to an acknowledged need for health related data to inform policy or practice development at either local, provincial or national levels and expressed

<p>interest from health, wellness and education stakeholders to collaborate on actions to move knowledge exchange forward.</p>
<ul style="list-style-type: none"> <li>• All three provinces identified a lack of comprehensive local level data to inform policy development and practices related to a range of youth health behaviours prior to the development and implementation of their respective knowledge exchange models. Early supporters and champions of having local level data also affirmed the importance of linking surveillance and knowledge exchange as part of the same process.</li> </ul>
<ul style="list-style-type: none"> <li>• Consultation with youth health, wellness and education stakeholders at government, school, and community levels was identified as critical for understanding their needs for youth health data, and ways in which data could be presented or shared to support greater use and application of new knowledge in their given contexts.</li> </ul>
<ul style="list-style-type: none"> <li>• Within each province, existing networks, coalitions, and working relationships related to youth health and wellness provided an initial foundation for promoting the value of youth health surveillance and knowledge exchange. Such capacity was initially identified and sought out by small working committees within each province. These groups accepted the mandate to champion the task of gathering and sharing local level youth health data.</li> </ul>
<ul style="list-style-type: none"> <li>• All provincial sites built on success arising from experiences with other health-related surveillance activities (e.g. YSS, BRFSS, CCHS, HBSC and SHAPES). Such experiences were recognized as helpful for generating initial commitment and support for continued surveillance and knowledge exchange.</li> </ul>
<p><i>Contextual Variations</i></p> <ul style="list-style-type: none"> <li>• Knowledge exchange champions who promoted and facilitated the development of surveillance and knowledge exchange processes came from a variety of stakeholder groups. Within New Brunswick and Prince Edward Island, government and university collaborations were central in launching initial surveillance and knowledge exchange activities. In Manitoba, regional health authority representatives and members of nongovernment organizations played an initial role in promoting and expanding knowledge exchange efforts.</li> </ul>
<p><b>C. Knowledge Exchange Products:</b> KE products were defined as communication resources, such as reports, facts sheets, websites, etc., intended to engage and inform multiple audiences of youth health, wellness and education stakeholders on local and provincial surveillance outcomes, and potential implications for moving such knowledge into action.</p>
<ul style="list-style-type: none"> <li>• All provincial sites asserted the importance of tailoring knowledge exchange products to engage the interest and to respond to the needs of various stakeholder groups within the education, school health, and public health sectors. Key audiences included principals, teachers, youths, parents, community members, school health professionals, nongovernment agency representatives, and government directors and managers.</li> </ul>
<ul style="list-style-type: none"> <li>• Knowledge exchange products provided a common entry point for all three provinces to initiate dialogues with existing and new stakeholders on youth health findings and best practices. Initial dialogues using the knowledge exchange products were recognized as beneficial for increasing interest in local school/youth health profiles, explaining the relevance of youth health to educational outcomes, and securing greater commitment from stakeholders for sustaining surveillance and knowledge exchange activities.</li> </ul>

<ul style="list-style-type: none"> <li>• To ensure the greatest uptake of school health knowledge, knowledge exchange products were written in language that was familiar and easy to understand for a range of stakeholders. Presentation of surveillance outcomes was often accompanied by concrete examples of how knowledge could be applied using identified best practices.</li> </ul>
<ul style="list-style-type: none"> <li>• The creation of concise knowledge exchange summaries or fact sheets highlighting key youth health outcomes was identified as appealing and manageable for engaging the attention and interest of senior policy makers and leaders from government, regional health authorities, schools and districts, and other community and nongovernment organizations.</li> </ul>
<ul style="list-style-type: none"> <li>• All case study provinces made use of websites to make youth health data and resources for knowledge exchange accessible to a wider range of stakeholders. The use of websites for sharing stories, and practise related to youth health and wellness was also initiated in each of the province; however, the use of technology, web-based and social media approaches for the expansion of knowledge exchange and the development of communities of practices on youth health was identified as an area for further development.</li> </ul>
<p><i>Contextual Variations</i></p> <ul style="list-style-type: none"> <li>• Through ongoing KE activities in each provincial jurisdiction, numerous knowledge products were designed for specific audiences and stakeholder groups. For the development of the initial feedback reports, in New Brunswick and Prince Edward Island, the SHAPES report was used as the preliminary format. In Manitoba, one regional health authority developed a report template that over time was adapted and modified by other regional health authorities.</li> </ul>
<p><b>D. Knowledge Exchange Activities:</b> KE activities refer to events, forums, meetings, presentations or planning sessions designed to engage health, wellness and education stakeholders in deliberations and collaborations related to understanding and using youth health data to plan actions.</p>
<ul style="list-style-type: none"> <li>• In each provincial site, knowledge exchange activities were intentionally identified and carried out based on the strategic processes within their respective provincial KE models.</li> </ul>
<ul style="list-style-type: none"> <li>• Regional and provincial champions were often identified as coordinators, hosts, and/or presenters at knowledge exchange activities, presentations or forums. These individuals used their own professional and personal networks to promote participation in these events and encourage knowledge use.</li> </ul>
<ul style="list-style-type: none"> <li>• Knowledge exchange activities were identified as beneficial for bringing together stakeholders and facilitating partnership development among health, wellness and education champions. In this regard, such events provided opportunities for encouraging mutual understanding of complementary roles in school health and the link between youth health and educational outcomes of students at all levels.</li> </ul>
<ul style="list-style-type: none"> <li>• The use of a wide array of knowledge exchange activities was recognized as essential for extending the reach of youth health outcomes to diverse health, wellness, education, and community stakeholders. Knowledge exchange activities included: individual consultations with stakeholders; group presentations of school, district, and provincial outcomes; planning events on local and regional surveillance findings; and formal presentations and papers.</li> </ul>
<ul style="list-style-type: none"> <li>• The importance of engaging youth as key participants in understanding and using data was emphasized by all stakeholder groups from the provincial case study sites. Such engagement was</li> </ul>

viewed as critical for not only promoting interest in continued surveillance activities, but also for positively influencing student health and wellness practices at the school level.

*Contextual Variations*

- Resource allocations to support the initial KE activities differed across the various provincial sites. In Manitoba, regional health authorities played a central role in promoting surveillance and knowledge exchange activities within schools and communities. CancerCare Manitoba and Partners in Planning for Healthy Living took the lead in promoting surveillance and knowledge exchange at the provincial level (e.g. government departments and various education associations). In New Brunswick and Prince Edward Island, university collaborations with government departments assumed responsibility for the initial rollout of surveillance and knowledge exchange activities. In Prince Edward Island, the researchers partnered with and received funding from the Department of Education and Early Childhood Development. In New Brunswick, the Department of Wellness, Culture and Sport provided annual funding and leadership in partnership with researchers and in collaboration with other stakeholders from the health, education and community sectors.

**E. Strategic Partnerships in Knowledge Exchange:** Strategic partnerships refer to specific relationships or collaborations identified as playing a key leadership or influential role in advancing knowledge exchange in youth health.

- Leadership and established collaborations at regional, provincial and interprovincial levels involving stakeholders with expertise in school health and wellness, education, and research and surveillance, were identified as critical for moving forward the preliminary promotion and actions related to each provincial knowledge exchange model.
- Regular face-to-face meetings and frequent personal contacts with strategic stakeholders was regarded as essential for building and sustaining relationships. Over time, such deliberations provided opportunities for clarifying and adapting goals, roles and partnerships to sustain surveillance and knowledge exchange activities.
- Each province recognized that developing partnerships within the Education sector were necessary for obtaining and sustaining the participation of schools and districts in ongoing surveillance and knowledge exchange activities. The nature of such partnerships included joint planning of surveillance approaches and timing, as well as negotiation of how data would be used and shared across regional and provincial jurisdictions.

*Contextual Variations*

- The SHAPES Collaborative was identified as a strategic alliance in the development of surveillance and knowledge exchange capacity for New Brunswick and Prince Edward Island. In Manitoba, Partners in Planning for Healthy Living, a network of various nongovernment organizations, government and regional health authorities, was regarded as the central alliance for supporting the development of surveillance and knowledge exchange activities in Manitoba.

**F. Systems and Structures:** Systems and structures refer to established or emerging KE networks or decision-making systems recognized as playing a key role in the development and expansion of knowledge exchange capacity.



<ul style="list-style-type: none"> <li>• The Centre for Behavioural Research and Program Evaluation (now Propel) at the University of Waterloo, funded by the Canadian Cancer Society, provided the initial network structure (SHAPES Collaborative) from which to initiate and foster relationships among research, policy and practice stakeholders related to youth health. These national networks helped contribute to the partnerships that initially moved surveillance and knowledge capacity forward in the case study provinces.</li> </ul>
<ul style="list-style-type: none"> <li>• Health coalitions, groups, networks and initiatives comprised of government and nongovernment stakeholders across each of the provinces made use of youth health surveillance data for planning and promoting healthy life style behaviours among youth, families, and communities in their respective regions. Youth health surveillance outcomes were also used within reports and plans to leverage both in-kind and financial resources to support regional knowledge exchange and better practice initiatives.</li> </ul>
<ul style="list-style-type: none"> <li>• Surveillance and knowledge exchange activities were also identified as supporting the development of multiple types of youth health and wellness planning committees and structures at the school, district and regional levels. Such committees recognised the value of sustained surveillance and knowledge exchange activities and its relevance to their continued decision-making processes over time.</li> </ul>
<p><i>Contextual Variations</i></p> <ul style="list-style-type: none"> <li>• Manitoba formalized its structure Partners in Planning for Healthy Living with terms of reference, signed membership agreements, and working groups with multiple partners that had direct links to many established networks.</li> </ul>
<p><b>G. Knowledge Exchange Impacts:</b> KE impacts refer to concrete ways in which surveillance outcomes or knowledge exchange activities have contributed to embedding or linking knowledge to action processes within existing or emerging planning and decision-making systems.</p>
<ul style="list-style-type: none"> <li>• In each of the provinces, grant programs that were linked with school health surveillance contributed to increased uptake of knowledge exchange reports and the use of evidence to plan school and regional actions on youth health and wellness.</li> </ul>
<ul style="list-style-type: none"> <li>• Stories of success, especially those involving the development and implementation of comprehensive or whole school approaches based on use of surveillance data, were identified as important sources of motivation and learning for youth health, wellness, education and community stakeholders across regions.</li> </ul>
<ul style="list-style-type: none"> <li>• The repetition of the surveillance and knowledge exchange activities provided an important foundation for building and sustaining school health partnerships within each provincial site. In contrast to collaborations ending at the close of a single surveillance project, youth health partnerships continued to evolve and expand with increased experience from working together on common surveillance and knowledge exchange activities.</li> </ul>
<ul style="list-style-type: none"> <li>• The use of youth health data by departmental stakeholders to set regional and provincial health and wellness plans and priorities, as well as to establish program benchmarks was recognized as contributing to wide-spread support for sustaining school level surveillance and knowledge exchange activities.</li> </ul>

*Contextual Variations*

*Contextual Variations*

- In New Brunswick, the Student Wellness Survey (SWS) findings were not only used by the Department of Wellness, Culture and Sport but also by departmental stakeholders in education to establish provincial benchmarks and were adopted by some stakeholders for school/district improvement planning and priority setting. In addition, external organizations annually cited the SWS findings in reports (e.g., Office of the Child and Youth Ombudsman annual report on the state of NB children and youth, and the New Brunswick Health Council report of youth health).

**H. Issues or Concerns:** Issues or concerns refer to potential challenges to the development, maintenance or expansion of youth health surveillance and knowledge exchange processes.

Common provincial issues or concerns related to youth health surveillance and knowledge exchange included:

- **Working within existing systems of education, health and wellness** posed challenges for decision-making, resource allocation, joint-planning, and priority setting, notably when recognized priorities and/or geographical boundaries of systems do not align. Concerted effort was required to understand each system, establish collaboration and achieve coordination to advance youth health surveillance and knowledge exchange.
- **Survey fatigue** was reported by schools from each provincial jurisdiction due to the requests and/or demands for completion of many different surveys. In some instances, multiple surveys during the same time periods and caused concern regarding the loss of educational time. Mitigating the burden to schools and promoting the merits of youth health for academic achievement was noted as important for sustaining participation.
- **Sustained funding** for continued surveillance and knowledge exchange activities was an area of concern raised by multiple stakeholders across provinces. Although the recognition of the importance and benefits associated with youth health surveillance and knowledge exchange has increased, established mechanisms for multi-year support of such efforts was identified as a critical consideration for moving forward in the future for each jurisdiction.
- **Human resources in KE**, such as, changes in personnel within strategic partnerships, resulted in additional time and effort required to re-inform and renew commitments to youth health surveillance and knowledge exchange. Loss of knowledge exchange champions in health, wellness and education sectors posed challenges for maintaining important stakeholder partnerships, corporate memories and stories of success related to surveillance and knowledge exchange activities. Human resources in KE were identified as an ongoing issue essential to sustaining capacity and advancing youth health and wellness.
- **Clear Communication** was recognized as critical to maintain diverse partnerships, understand terminology and explore emerging concepts (i.e., mental fitness). Successful communication across provincial contexts, government departments or sectors, jurisdictions, organizations, and research, policy and practice required ongoing contact with a variety of partners. Ongoing KE was identified as being essential to building mutual understanding; seeking clarification of meanings, applications, and subtle differences; and responding to the needs of intended audiences.

## **APPENDIX C: Partners in Planning for Healthy Living (MB Current Partners)**

- Addictions Foundation of Manitoba
- Alliance for the Prevention of Chronic Disease
- Assiniboine Regional Health Authority
- Brandon Regional Health Authority
- Burntwood Regional Health Authority
- CancerCare Manitoba
- Canadian Cancer Society (Manitoba Division)
- Central Regional Health Authority
- Churchill Regional Health Authority
- Healthy Child Manitoba
- Health in Common
- Heart and Stroke Foundation of Manitoba
- Interlake Regional Health Authority
- Manitoba Education
- Manitoba Healthy Living, Youth and Seniors
- Manitoba Health
- Manitoba Physical Education Supervisors Association
- NOR-MAN Regional Health Authority
- NorthEast MAN Regional Health Authority
- Parklands Regional Health Authority
- Public Health Agency of Canada, Manitoba and Saskatchewan Division
- SouthEast MAN Health
- Winnipeg Regional Health Authority

## **APPENDIX D: Example of a KE Curriculum Connector (NB)**

Linking the **NB Student Wellness Survey** to the Mathematics Curriculum – Grade 7

### **General Curriculum Outcome**

A: Students will demonstrate number sense and apply number theory concepts.

### **Specific Curriculum Outcome**

A11: Demonstrate number sense for percent.

### **Interdisciplinary: Health**

### **Learning Ideas:**

1) Refer to your school's **School Feedback Report** and read the different issues presented about Healthy Eating. Share those issues with the students. This should create a class discussion.

2) Students will visit the site and read the facts on nutrition labels:  
[www.hc-sc.gc.ca/fn-an/labeletiquet/nutrition/interactive/inl\\_main\\_e.html#3](http://www.hc-sc.gc.ca/fn-an/labeletiquet/nutrition/interactive/inl_main_e.html#3)

Students will analyze the percentages in order to decide if the products have a little or a lot of a nutrient or ingredient.

3) Students will be asked to bring two nutrition labels in class the next day. In their math journal, they will explain what the percentages represent and if the products chosen have a little or a lot of a nutrient or ingredient.

4) In groups, students will share their labels and discuss the amount of nutrients.

5) Students will also visit the site read the information concerning the nutrition labelling and they will take the quiz at the bottom of the page:  
[www.hc-sc.gc.ca/fn-an/labeletiquet/nutrition/interactive/inl\\_flash\\_e.html](http://www.hc-sc.gc.ca/fn-an/labeletiquet/nutrition/interactive/inl_flash_e.html)

### **Assessment:**

1) Assess the students' math journal to see if they understood what the percentages represent.

### **Resources:**

- Your **School Feedback Report**
- Mathematics Grade 7 Curriculum Document

Please note: Additional examples of the middle school (Grades 6-8) 30+ learning ideas for Health Education, Language Arts, Mathematics, Personal Development and Social Studies can be found at: [www.unbf.ca/education/herg](http://www.unbf.ca/education/herg)