Final Report: *Data and Evidence Working Group* Recommendations for Obesity Reduction in BC



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Obesity Reduction Strategy for British Columbia: *Report of the Working Group on Data and Evidence*

Executive Summary

Obesity Reduction Strategy for BC

An Obesity Reduction Task Force has been formed to steward the development of a comprehensive Obesity Reduction Strategy (ORS) for British Columbia. The intent is to engage a broad range of sectors and stakeholders, including public policy makers, corporations/industry, non-government organizations and academia, in a collaborative effort to address the wholly preventable and treatable epidemic of obesity. Various groups have been established by the Task Force, including provincial- and community-level collaboratives, as well as content-specific working groups such as the Working Group on Data and Evidence (WGDE). This document is the report of the WGDE.

The purpose of the WGDE is to act as an advisory body that will develop recommendations in the area of data, evidence, evaluation, and surveillance for consideration by the Provincial and Community Collaboratives in support of the BC ORS. The WGDE consists of a group of 14 individuals with expertise in epidemiology, surveillance, evaluation, and research. Recommendations of the WGDE are based on input from the other working groups, the experts on the WGDE and the work commissioned for this project.

Obesity in Canada

There are a number of data sources for the surveillance of obesity in Canada. Despite their availability, each data source has a number of important limitations. A key limitation for adults is that obesity tends to be calculated based on an individual's self-reported, rather than measured, height and weight. These limitations are most significant when attempting to assess overweight and obesity in children and adolescents, in particular changes in rates over time.

Based on available information, the proportion of Canadian youth who are overweight or obese continues to increase. The key significance of this trend is that excess weight in children tends to persist into adulthood. This results in an increased risk for future health problems such as diabetes, cardiovascular disease, hypertension, digestive disease, and joint disorders. From a public health perspective obesity has reached epidemic proportions.

Recommendations

The WGDE recognizes the existence of data sources for both adult and childhood obesity in Canada. The intent of the following recommendations is to improve on these data sources by addressing current limitations. In the mean time, however, the available data sources will continue to be accessed and utilized within the context of their limitations.

In addition, the Obesity Reduction Task Force will be recommending that Aboriginal communities and organizations be supported in the development and implementation of an obesity reduction strategy that is specific for Aboriginal people. It is understood that recommendations to monitor the impact of that strategy will be part of the Aboriginal-specific strategy and thus are not included as recommendations in this report.

Surveillance Recommendations

1. Conduct biannual, province-wide surveillance of health behaviours and measured height and weight for Grades 6 and 10. Surveillance conducted using a sampling strategy that allows estimation, at the Health Authority level, of health behaviours and BMI for boys and girls separately.

Key Features of Recommendation #1

- Biannual province-wide survey
- Use probability proportional sampling to determine the sample size required to provide Health Authority level estimates
 - ✓ 5,488 Grade 6 boys and girls (2,744 each)
 - ✓ 5,572 Grade 10 boys and girls (2,786 each)
- Assessment of health behaviours using the SHAPES tool (see Appendix 4)
- Measurement of height and weight
- Reports provided to schools participating
- No individual reporting of findings, all results reported at an aggregate level school, HA, and provincial
- Use lessons learned by PHSA with the HASAC project (see Appendix 3)
- 2. Conduct biannual, province-wide surveillance of policies and activities supporting healthy eating and physical activity for schools, municipalities and health authorities. Survey the school administration and municipalities of the schools selected for the surveillance of students.

Key Features of Recommendation #2

- School administration in each school that is selected for survey is asked to complete a survey assessing their policies and activities that support healthy living (see Appendix 5)
- Municipal administration of each community that has a school selected for the survey is asked to complete a survey assessing their policies and activities that support healthy living (see Appendix 6)
- Health Authorities are asked to compile information from the above two sources to identify gaps in policies and activities that support healthy living
- 3. Develop a toolkit for schools that are not selected for surveillance, allowing them to conduct their own surveillance of health behaviours (food and physical activity) and measured height and weight.

Key Features of Recommendation #3

- 1. Provide processing of surveys for schools that wish to conduct their own surveillance
- 4. Conduct province-wide surveillance of measured height and weight for adults using a sampling strategy that allows estimation at the Health Authority level.

Performance Data Analysis Recommendations

- 1. Incorporating the ability to analyse quality / performance data is a vital part of program planning, implementation and delivery, and should be embedded in the ORS from the outset
- 2. Analysis of quality / performance data should be regular and routine
- 3. Analysis of quality / performance data should not be dependent on unpredictable granting regimes
- 4. Resource needs for analysis of quality / performance data should be routinely identified, quantified and incorporated into annual operating budgets
- 5. Use existing resources and tools to facilitate analysis of quality / performance (e.g., the CAPTURE project <u>http://www.thecaptureproject.ca/</u>, see also Appendix 7)

Introduction

Obesity Reduction Strategy for BC

On April 2nd, 2009 the BC Health Officers Council passed a unanimous resolution to develop a comprehensive Obesity Reduction Strategy (ORS) for British Columbia. The intent is to engage a broad range of sectors and stakeholders, including public policy makers, corporations/industry, non-government organizations and academia, in a collaborative effort to address this wholly preventable and treatable epidemic. The Provincial Health Services Authority is tasked with supporting the development of ORS, and an Obesity Reduction Task Force has been formed to steward its development. The various groups established by the Task Force and their mandates are highlighted below.

Task Force: Mandate is to develop the comprehensive Obesity Reduction Strategy for BC and mobilize for commitment and action. (*Chair: John Millar*)

Provincial Level Collaborative: Mandate is to build the provincial level strategies/interventions for inclusion in the ORS. Membership includes stakeholders with appropriate level of authority to recommend actions to their organizations from sectors that have jurisdiction and mandate to implement provincial level actions. (*Co-chairs: Task Force member and other stakeholder*)

Community Level Collaborative: Mandate is to build community level strategies/interventions for inclusion in the ORS. Membership includes stakeholders with appropriate level of authority to recommend actions to their organizations from sectors that have jurisdiction and mandate to implement community based actions. (*Co-chairs: Task Force member and other stakeholder*)

Content Specific Working Groups: Mandate is to propose provincial-level and community-based strategies/interventions to transform the food and physical activity environments as well as propose treatment options. Membership includes content experts from sectors relevant to each content area. (*Each Working Group to be co-chaired by a Task Force member and other stakeholder*)

Working Group on Data and Evidence

The mandate of the Working Group on Data and Evidence (WGDE) is to provide expertise on content, tools and processes for epidemiology, surveillance, evaluation, and research. Membership includes technical experts in each area mentioned. (*Co-chaired by Task Force member*)

This document is the report of the Working Group on Data and Evidence.

Purpose

The purpose of the WGDE is to act as an advisory body that will develop recommendations in the area of data, evidence, evaluation, and surveillance for consideration by the Provincial and Community Collaboratives in support of the BC Obesity Reduction Strategy. These recommendations will support the strategy recommendations made by the other Obesity Strategy Working Groups that will range from environmental, policy, and behavioral approaches to obesity reduction.

Responsibilities

More specifically, the responsibilities of the WGDE are to:

• Provide expertise, advice and guidance

- As a group, identify data, evidence, and research gaps and propose data collection strategies, promising practices, and other relevant methods
- Identify current initiatives in BC
- Identify national/international evaluated promising practices
- Identify gaps in surveillance
- Submit recommendations to Task Force, and Provincial and Community Collaboratives for review
- Review potential strategies for acceptability, feasibility, equity, cost-effectiveness, and sustainability
- Share or contribute resources where relevant.

Approach

The WGDE consists of a group of 14 individuals with expertise in epidemiology, surveillance, evaluation, and research (see *Acknowledgements* section above). The co-chairs of the WGDE are members of the other working groups, thus keeping the group apprised of progress by these groups. In addition to a series of meetings/teleconferences, the WGDE commissioned several reviews, including an overview of various surveillance programs worldwide and within Canada specific to children and youth (see Appendix 1) as well as one on a rationale for investment in performance data analysis (see Appendix 2). Recommendations of the WGDE are based on input from the other working groups, the experts on the WGDE and the work commissioned for this project.

Obesity in Canada

There are a number of data sources for the surveillance of obesity in Canada. Despite their availability, each data source has a number of important limitations. These limitations are most significant when attempting to assess overweight and obesity in children and adolescents, in particular changes in rates over time.

Adult Obesity in Canada

Perhaps the most important resource for surveillance data on adult obesity in Canada is the Canadian Community Health Survey (CCHS). The CCHS is a cross-sectional survey that collects information related to health status, health care utilization, and health determinants for the Canadian population. Prior to 2007, data collection occurred every two years for an annual period. Data are available for the 2001, 2003 and 2005 periods. In 2007, major changes were made to the survey design, resulting in yearly data collection; thus, data is available for 2007 and 2008. The target population of the CCHS is Canadians aged 12 years and older, living in private occupied dwellings in health regions covering all provinces and territories. Excluded from the survey are individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions.

Results on overweight and obesity based on CCHS self-reported height and weight are summarized on the following figure.



While data for youth ages 12+ are collected for the CCHS, there are several problems with this data. First, the sample sizes are quite small, usually only allowing for information at the provincial level. These sample sizes are not sufficient to yield a representative estimate for B.C. Sufficient data for adults, on the other hand, is usually available for comparisons at a sub-provincial level (for e.g., by Health Services Delivery Area in B.C.). Second, the results for youth are usually provided by their caregiver, thus potentially leading to inaccurate information. Finally, for both adults and children, overweight and obesity rates are calculated based on self-reported height and weight. Individuals tend to overestimate their own height and underestimate their weight, thus leading to lower overall rates of reported overweight and obesity.

Childhood Obesity in Canada

Based on available information, the proportion of Canadian youth who are overweight or obese continues to increase. The key significance of this trend is that excess weight in children tends to persist into adulthood.^{1,2} This results in an increased risk for future health problems such as

¹ Whitaker RC, Wright JA, Pepe MS et al. Predicting obesity in young adulthood from childhood and parental obesity. *New England Journal of Medicine*. 1997; 337(13): 869-73.

² Singh AS, Mulder C, Twisk JW et al. Tracking of childhood overweight into adulthood: a systematic review of the literature. *Obesity Reviews*. 2008; 9(5): 474-88.

diabetes, cardiovascular disease, hypertension, digestive disease, and joint disorders.^{3,4} From a public health perspective obesity has reached epidemic proportions.

Perhaps the best indication of the change in prevalence of overweight and obesity of Canadian children over time is a 2006 report from Statistics Canada.⁵ The report uses **measured height and weight** in calculating overweight and obesity prevalence amongst children and youth (aged 2-17) between 1978/79 and 2004. The author notes that the 1978/79 survey was the last time (prior to 2004) that "*interviewers directly measured the height and weight of a nationally representative sample of Canadians. In the past, most health surveys relied on respondents to report their height and weight, a practice that tended to underestimate the prevalence of overweight and obesity among adolescents and adults.*"

The report shows an increase in the rate of childhood overweight and obesity from 15% to 26% over the 25 year period, with obesity nearly tripling from 3% to 8% (see following below). This increase is most pronounced in the adolescent years. A 2000 study by Tremblay and Willms reported similar findings. They found that between 1981 and 1996 the prevalence of overweight and obesity of Canadian youth aged 7-13 increased from 11.4% to 29.3%, with BMI increasing at an average of almost 0.1kg/m^2 per year.^{6,7}



³ Maffeis C, Tato L. Long-term effects of childhood obesity on morbidity and mortality. *Hormone Research*. 2001; 55 Suppl 1: 42-5.

⁵ Shields M. Measured Obesity - Overweight Canadian children and adolescents. 2006. Available at

⁴ Rees A, Thomas N, Brophy S et al. Cross sectional study of childhood obesity and prevalence of risk factors for cardiovascular disease and diabetes in children aged 11-13. *BMC Public Health.* 2009; 9: 86.

http://www.statcan.gc.ca/pub/82-620-m/2005001/pdf/4193660-eng.pdf. Accessed April 23, 2010.

⁶ Tremblay MS, Willms JD. Secular trends in the body mass index of Canadian children. *Canadian Medical Association Journal*. 2000; 163(11): 1429-33.

⁷ Willms JD, Tremblay MS, Katzmarzyk PT. Geographic and demographic variation in the prevalence of overweight Canadian children. *Obesity Research*. 2003; 11(5): 668-73.

Variance between geographical areas were also noted, with combined prevalence rates ranging from 22% in Alberta to 36% in Newfoundland (see following figure). The highest rates are found amongst the Atlantic Provinces, but Willms et al. note that there seems to be a cultural component at play, given the dramatic difference in prevalence rates between neighbouring provinces such as Quebec and New Brunswick.⁸



A more recent Canadian survey has continued to measure childhood and adult obesity. The Canadian Health Measures Survey (CHMS) is a national health survey being conducted by Statistics Canada under the Statistics Act in partnership with Health Canada and the Public Health Agency of Canada.⁹ The CHMS takes direct physical measurements from people aged 3 to 79 for the purpose of determining physical fitness, heart and lung health, obesity and hypertension. The measurements are made by trained specialists at a mobile examination centre that is located in specific sites. Participants also complete a household interview to provide information on nutrition, smoking habits, alcohol use and other factors, as well as demographic and socioeconomic variables.

The first cycle of the CHMS began in March 2007 and concluded in February 2009; the second cycle began in late August 2009. Over the next two years, the survey will visit 16 sites in 7 provinces to collect information about the general health and lifestyle characteristics of about 5,700 Canadians. This figure includes a target of 360 residents of Richmond this summer followed by 360 residents of the central and east Kootenay region in the fall. Statistics Canada is examining the possibility of adding a third site in British Columbia in 2011 to augment the survey sample.

⁸ Willms JD, Tremblay MS, Katzmarzyk PT. Geographic and demographic variation in the prevalence of overweight Canadian children. *Obesity Research*. 2003; 11(5): 668-73.

⁹ Refer to http://www.statcan.gc.ca/cgi-

bin/imdb/p2SV.pl?Function=getSurvey & SDDS=5071& lang=en& db=imdb& adm=8& dis=2

Data from Cycle 1 is now available, and has the added value of presenting BMI measurements for children and youth aged 6-17 in both Cole (also known as IOTF) and CDC classification methods. The data is presented in the figure below, and highlights the variance between the two classification systems. Although the combined prevalence of overweight/obesity is relatively consistent between the two, there is considerable variance between the prevalence rates of obesity and overweight individually. The CDC method places more individuals in the obese category and correspondingly fewer in the overweight category.



In addition to the two aforementioned classification methods, in 2007 the WHO introduced its own classification system. Shields and Tremblay note that the WHO method classifies more individuals as overweight/obese than either the Cole (IOTF) or the CDC methods. They go on to explain the possible reasons for this variance: ¹⁰

The differences observed in estimates of the percentage of overweight or obese children and youth are likely due to differences in the samples on which the three sets of cut-points are based, methods used in curve construction and the criteria used to specify the cut-points. The WHO growth curves for 0- to 5-year-olds are based on a standard (rather than a reference population), which is an attempt to describe how children should grow versus how they do grow... By contrast, the CDC and IOTF growth curves are based on reference populations (nationally representative samples of children selected over time) and they reflect the growth of these children. The higher percentage of 2- to 5-year olds classified as overweight or obese, based on the

¹⁰ Shields M, Tremblay MS. Canadian childhood obesity estimates based on WHO, IOTF and CDC cut-points. *International Journal of Pediatric Diabetes*. 2010; 5(3): 265-73.

WHO cut-points (compared with the IOTF or CDC cut-points), likely reflects the construction of growth curves that are uniquely based on a growth standard.

This variance highlights the fact that when interpreting prevalence estimates for excess weight among children and youth it is crucial to consider the method used as it directly impacts the results; consistency in data collection and interpretation is needed particularly when tracking prevalence rates over time.

Cycle 1 data has also been used to track trends over time, with two notable reports published on the Fitness of Canadian Children and Youth¹¹ and Canadian Adults.¹² Comparison with measured rates of BMI from the 1981 Canadian Fitness Survey found that both boys and girls of all age cohorts had statistically significant increases in mean BMI over the time period.

Trends in Childhood Obesity in England and the United States

Unlike Canada, the systematic surveillance of childhood obesity has taken place in jurisdictions such as England and the United States for some time.

In England, for example, children have been included in the Health Survey for England since 1995; as part of this survey, height and weight measurements are taken. The UK National BMI percentiles have been used to define overweight and obesity in children as at or above the 85th or 95th BMI percentiles respectively of the 1990 reference population. The following chart shows the trend in overweight and obesity prevalence for children in England from 1995 – 2008:



¹¹ Tremblay MS, Shields M, Laviolette M et al. Fitness of Canadian children and youth: results from the 2007-2009 Canadian Health Measures Survey. *Health Reports*. 2010; 21(1): 7-20.

¹² Shields M, Tremblay MS, Laviolette M et al. Fitness of Canadian adults: results from the 2007-2009 Canadian Health Measures Survey. *Health Reports*. 2010; 21(1): 21-35.

The chart indicates that there has been a decrease in prevalence of obese children in recent years, while the prevalence of overweight children has remained relatively stable.

In the U.S., historical data is also available regarding overweight prevalence in children (obesity in children was not defined), as far back as 1971. Note that in the following chart the year groupings are variable, and data is missing for some years. Despite this, it is apparent that the rising trend in overweight prevalence has reversed since 2003 in the 2-5-year and 6-11-year age groups, while it continues to increase in the 12-19-year age group.



Conclusions such as those drawn from surveillance data in England and the US are simply not possible in Canada due to a lack of appropriate surveillance data.

The British Columbia Health Assessment of School-Aged Children (HASAC) Project

Many jurisdictions have begun to address the lack of appropriate surveillance data by implementing health surveillance programs specific to children and youth (see Appendix 1).

In British Columbia, the Health Assessment of School-Aged Children (HASAC) project is an initiative by the Provincial Health Services Authority (PHSA) with funding provided by the BC Ministry of Healthy Living and Sport, the PHSA, and Child Health BC. HASAC is designed to help BC schools plan health improvement activity by collecting data on nutrition, physical activity, smoking behaviour, and self-perception of grade six students.

The Health Assessment is taken during school hours and has been completed twice thus far, in 2008 and 2009. The 2009 survey covered 19 schools in total, 15 elementary schools and 4 middle schools from across British Columbia; this represented two more schools than the year prior.

Additional background information as well as the HASAC *Feedback Report for All Schools* is available in Appendix 3.

Following are several highlights from that report:

- 33% of girls and 34% of boys reported consuming vegetables and fruit at least six times the day before the survey
- 20% of students correctly identified that people their age (9-13) should eat 6 servings of fruit and vegetables per day
- 26% of students reported eating whole grains, such as whole grain bread or pasta, at least three times in the previous day
- 77% of students reported eating candy, baked sweets or frozen desserts, 53% reported eating salty snacks at least once the previous day, and 71% reported drinking at least one serving of a sweetened beverage the day prior to the survey
- 14% of students were physically active for at least 90 minutes every day of the previous week
- 24% of students report typically spending more than 3 hours watching TV, on computer or on the phone per day
- Using BMI calculations based on measured height and weight, 34% of males and 27% of females are overweight or obese

Obesity and Health Disparities

The obesity epidemic is understood as a complex issue that is difficult to define and an issue that has no clear or immediate solution. Resulting from a multi-faceted system of causes, it calls for a comprehensive, cross-cutting, long-term strategy that requires action from multiple stakeholders at multiple levels. Though obesity results from consuming too many calories and not expending enough of them at an individual level, the epidemic results from broad societal changes that have taken place in the past thirty plus years. Changes in values as well as changes in people's environments that give easy access to high calorie foods and decrease opportunities for expending energy are thought to be the key drivers of the epidemic. Interventions targeting individuals are important; however, to reverse the epidemic one must also emphasize the transformation of people's environments to make the healthy option the easy choice.

One of the additional challenges in addressing the obesity epidemic is that of health disparities. Health disparities, or inequities, are systematic differences in health status between different socioeconomic groups. In British Columbia, there are a significant number of disadvantaged people who experience lower levels of health than average; these include the unemployed and working poor, children and families living in poverty, people with addictions and/or mental illness, Aboriginal people, new immigrants, and the homeless.¹³

Disparities in the prevalence of obesity are most commonly associated with racial/ethnic background and socioeconomic status (SES). In general, "children from families with lower income and lower levels of education have poorer overall health and higher rates of cognitive difficulties, behavioural issues, hyperactivity and obesity through childhood. The consequences of these disadvantages include children growing into adults with lower educational attainment, weaker

¹³ Health Officers Council of BC. *Health Inequities in British Columbia Discussion Paper*, Nov 2008. Available at http://www.phabc.org/files/HOC_Inequities_Report.pdf

literacy and communication skills, fewer employment opportunities and poorer overall physical and mental health."¹⁴ Literature suggests that in developed countries, low-SES groups are more likely to be obese than their high-SES counterparts, and some minority groups have a higher prevalence of obesity. Widespread environmental factors such as food availability, food advertising, school policies, recreational facilities, and opportunities for safe, affordable physical activity either directly or indirectly influence health and survival; these factors may often be stratified by racial/ethnic background and SES, and result in an "obesogenic" environment for low-income and/or ethnic minority youth.¹⁵

Of the two indicators – SES and racial/ethnic background – the latter is more straightforward as a survey element. B.C.'s largest ethnic populations are Chinese, South Asian, Aboriginal, Filipino, Korean, and Southeast Asian.¹⁶ With regard to SES, a wide range of indicators may be used to determine SES levels for children; Shrewsbury & Wardle have recommended that epidemiological studies of adiposity in children include more than one of these indicators, and where possible studies should incorporate SES indicators measured at both the household and neighbourhood level.¹⁷

The following are examples of SES indicators that have been used in U.S. studies of the association of SES with prevalence of overweight in children:

- Parental education (\leq Grade 12, >Grade 12)
- Parental occupation
- Family income, i.e.:
 - \circ <u><</u> or > 125% of federal poverty level
 - Poverty income ratio ratio of household income and the poverty line published by Census Bureau for a certain family size in that calendar year
- Single-parent household
- Health insurance status
- Home postcode

Sample Approach to Addressing Childhood Obesity

EPODE (Ensemble, Prévenons L'Obésité des Enfants: Together Let's Prevent Childhood Obesity) is an integrated European obesity prevention program whose main focus is children and the family.¹⁸ Its principles are:

- To promote a balanced, diverse, affordable, and fun diet
- To encourage children and families to be less inactive and to exercise on a regular basis

The program is designed to be delivered at a geographic level of town or city. The first true EPODE project was initiated in Fleurbaiz and Laventie, two small towns in northern France. Although it began as a school program, the community-at-large had become more involved by 1999, helping to

¹⁴ Health Officers Council of BC. *Health Inequities in British Columbia Discussion Paper*, Nov 2008. Available at http://www.phabc.org/files/HOC_Inequities_Report.pdf

¹⁵ Yancey AK, Kumanyika SK. Bridging the Gap: understanding the structure of social inequities in childhood obesity. *American Journal of Preventive Medicine*. 2007; 33(4 Suppl): S172-4.

¹⁶ British Columbia Multiculturalism and Immigration Branch. The Diversity of Visible Minorities and Ethnic Origins in BC. 2008. Available at http://www.welcomebc.ca/shared/docs/communities/visible_minorities_ethnic_origins.pdf

¹⁷ Shrewsbury V, Wardle J. Socioeconomic status and adiposity in childhood: a systematic review of cross-sectional studies 1990-2005. *Obesity (Silver Spring)*. 2008; 16(2): 275-84.

¹⁸ Watson R. Steps to a leaner Europe. *British Medical Journal*. 2007; 335(7632): 1238.

inspire the formal town-wide approach that was launched in 2003. The actual interventions comprised the following:

- Health check-ups were offered to volunteers from Fleurbaiz and Laventie, including a fasting blood sample, a clinical examination, and a questionnaire to screen for on unhealthy habits
- At-risk individuals were offered family-oriented advice by a dietitian on healthy eating and physical activity
- Identified health problems (including childhood obesity) were referred to general practitioners
- Dietitians were also employed to perform interventions in schools, community associations, and town meetings
- Municipal councils supported actions in favour of physical activity, including erecting new sports facilities and employing sport educators to promote physical activity among primary school children
- Local stakeholders, such as general practitioners, pharmacists, grocery store owners, and sports organizations set up relevant family activities
- Newsletters and regular media reports were disseminated

The related evaluation study included the intervention towns and two nearby control towns. In 1992, 2000, and then annually from 2002 to 2004, BMI was measured in the entire population of 5-to 12-year-old children in the four towns, with a very high participation rate reported. The prevalence rate for overweight/obesity was significantly lower in the intervention towns in 2004 (8.8% vs. 17.8%).¹⁹

Although scepticism has been expressed in some quarters about the results, and questions have been raised about the potential adverse effects of the EPODE approach,²⁰ it has been generally evaluated as successful in terms of impact on children's BMI and stakeholder feedback and involvement. As a consequence, the program has now expanded to include nearly 1.8 million inhabitants in 167 French cities, 20 cities in Spain, and 8 cities in Belgium. Cities of varying size (from 10,000 to 100,000 inhabitants) and socioeconomic profiles are involved. Programs based on EPODE are also being implemented in Greece, Australia, and Québec. Other European countries, including Scotland, are actively considering using the EPODE approach. One of the latest implementations has occurred in British Columbia, where pilot projects have been launched in Prince George and Abbotsford under the heading SCOPE (Sustainable Childhood Obesity Prevention through Community Engagement).²¹

¹⁹ Romon M, Lommez A, Tafflet M et al. Downward trends in the prevalence of childhood overweight in the setting of

¹²⁻year school- and community-based programmes. Public Health Nutrition. 2009; 12(10): 1735-42.

²⁰ Hebebrand J, Muller MJ. Steps to a leaner Europe - an initiative of the European union. *Obesity Facts*. 2008; 1(2): 68-70.

²¹ See the job description for a SCOPE coordinator at http://www.civicinfo.bc.ca/161.asp?jobpostingid=10771. Accessed February 2010.

Summary of Data Limitations in B.C.

- 1. Sufficient data for adults is available from the CCHS for comparisons at a sub-provincial level (for e.g., by Health Services Delivery Area) but overweight and obesity rates are calculated based on self-reported height and weight. Individuals tend to overestimate their own height and underestimate their weight, thus leading to lower overall rates of reported overweight and obesity.
- 2. While data for youth ages 12+ are collected for the CCHS, the sample sizes are not sufficient to yield a representative estimate for B.C. In addition, the results for youth are usually provided by their caregiver, thus potentially leading to inaccurate information.
- 3. Canadian surveys that use direct measurement to calculate childhood obesity (e.g. the Canadian Health Measures Survey (CHMS) rarely have a sufficient sample size to allow for valid comparisons at the sub-provincial level.
- 4. Provincial initiatives such as the Health Assessment of School-Aged Children (HASAC) tend to be limited in scope (i.e. are not population-based) and duration (i.e. do not cover enough years to allow for the identification of trends).
- 5. No current B.C. data allows for the analysis of the interaction between overweight/obesity and health disparities.

Recommendations

The WGDE recognizes that there are a number of sources of data for both adult and childhood obesity in Canada. The intent of the following recommendations is to improve on these data sources by addressing current limitations. In the mean time, however, the available data sources will continue to be accessed and utilized within the context of their limitations.

Rates of overweight and obesity in the Aboriginal population are at least 2 to 4 times that of the non-Aboriginal population. The Obesity Reduction Task Force will be recommending that Aboriginal communities and organizations be supported in the development and implementation of an obesity reduction strategy that is specific for Aboriginal people. It is understood that recommendations to monitor the impact of that strategy will be part of the Aboriginal-specific strategy and thus are not included as recommendations in this report.

Recommendations from the WGDE

Surveillance

A review of sample childhood obesity surveillance programs in Canada and abroad is summarized in the following table (see Appendix 1 for further details).

		Obesity Sur	veillance of Childr	en and Yout	h		
			Measured or Self-	# of		Sampling	
			reported	Participants		Strategy/Response	Most Recent
Region	Survey Name	Target population	height/weight	/survey	Frequency	Rate	Survey
Canada	Canadian Community Health Survey (CCHS)	All Canadians aged 12 yrs. and over	Both	65,000	Annual	Sample survey with a cross-sectional design	2009
Canada	Canadian Health Measures Survey (CHMS)	Canadians aged 3 - 79 years	Both	5,700	Every 2 years	16 sites in 7 provinces	2009
British Columbia	Adolescent Health Survey (AHS)	BC public school students grades 7-12	Self-reported	29,440	Every 5 years	School classes randomly chosen from participating school districts; 85% of school districts participated	2008
	Health Assessment of School- Aged Children (HASAC)	Grade 6 students	Measured	19 schools	Pilot Project	School invitations	2009
Alberta	Raising healthy Eating and Active Living (REAL) Kids	Grade 5 students	Measured	3,935	One-time; second one planned for spring 2010	One-stage stratified random sampling; 80.4% school participation rate, with participation from 61.2% of grade 5 students in these schools	2008
Manitoba	Youth Health Survey (YHS)	Students in grades 6-12	Self-reported	47,000	One-time; second one planned for 2011/12	All schools invited to participate	2005-2008
Ontario	Ontario Childhood Healthy Weights Surveillance System (OCHWSS)	Grade 2 students	Measured	200-300	Pilot Project	2 Public Health Units will Sample 5 classrooms (minimum of 2 schools)	In Process
New Brunswick	Elementary Wellness Survey	Students in grades 1, 3, & 5	Measured	23 schools	One-time	Representative New Brunswick sample	2007/08
Nova Scotia	Children's Lifestyle and School- performance Study (CLASS)	Grade 5 students	Measured	4,300	One-time	96.9% of schools participated; average response rate 51.1% per school	2003
England	Health Survey for England (HSE) - children	All children aged 15 years and under	Measured	7,500	Annual	Nationally representative population sample	2008/09
	National Child Measurement Programme (NCMP)	All children aged 4-5 years and 10-11 years	Measured	800,000	Annual	All students in target population	2008/09
USA: Arkansas	School BMI Assessment	Schoolchildren in even- numbered grades (K,2,4,6,8,10)	Measured	217,000	Annual	98.5% of students participated; 82% effective response rate	2008/09
International (WHO)	Health Behaviour in School- Aged Children (HBSC)	Youth attending school ages 11, 13, & 15 yrs.	Self-reported	Avg. 4,500 per country	Every 4 years	Nationally representative sample, with approx. 1500 from each age group	2005/06

This review suggested the following insights:

- *Measurement vs. self-reported*: Measurement is becoming the standard, as many studies indicate that self-reported data underestimates overweight prevalence.
- *Measurement type(s)*: BMI is most common, though measurements of central adiposity in children are increasingly being studied for risk factor prediction utility.
- *Frequency*: Many of the surveys were either one-time projects or conducted biannually or on a less frequent basis, only the two surveys in England involve measured height and weight *and* are conducted on an annual basis.
- *Scope:* Most surveys described are designed to give a broad picture of the health and wellbeing of children, with physical measures being one small component. The exception is England's National Child Measurement Programme (NCMP); while this survey only consists of height and weight measurements, it is complemented by the national HSE (Health Survey for England) which includes such measurements as well as information on determinants of overweight and obesity.

Surveillance Recommendations

1. Conduct biannual, province-wide surveillance of health behaviours and measured height and weight for Grades 6 and 10. Surveillance conducted using a sampling strategy that allows estimation, at the Health Authority level, of health behaviours and BMI for boys and girls separately.

Key Features of Recommendation #1

- Biannual province-wide survey
- Use probability proportional sampling to determine the sample size required to provide Health Authority level estimates
 - ✓ 5,488 Grade 6 boys and girls (2,744 each)
 - ✓ 5,572 Grade 10 boys and girls (2,786 each)
- Assessment of health behaviours using the SHAPES tool (see Appendix 4)
- Measurement of height and weight
- Reports provided to schools participating
- No individual reporting of findings, all results reported at an aggregate level school, HA, and provincial
- Use lessons learned by PHSA with the HASAC project (see Appendix 3)
- 2. Conduct biannual, province-wide surveillance of policies and activities supporting healthy eating and physical activity for schools, municipalities and health authorities. Survey the school administration and municipalities of the schools selected for the surveillance of students.

Key Features of Recommendation #2

- School administration in each school that is selected for survey is asked to complete a survey assessing their policies and activities that support healthy living (see Appendix 5)
- Municipal administration of each community that has a school selected for the survey is asked to complete a survey assessing their policies and activities that support healthy living (see Appendix 6)
- Health Authorities are asked to compile information from the above two sources to identify gaps in policies and activities that support healthy living

3. Develop a toolkit for schools that are not selected for surveillance, allowing them to conduct their own surveillance of health behaviours and measured height and weight.

Key Features of Recommendation #3

- Provide processing of surveys for schools that wish to conduct their own surveillance
- 4. Conduct province-wide surveillance of measured height and weight for adults using a sampling strategy that allows estimation at the Health Authority level.

Investment in Performance Data Analysis

A brief review of how several countries/organizations have integrated program evaluation with the delivery of a health care intervention was conducted as part of the background research for the Data and Evaluation Working Group (see Appendix 2). Of importance in this area is the distinction between evaluation and research: *The purpose of evaluation is to improve, not prove.*

Key findings of the review are as follows:

- 1. Analysis of quality or performance data is a vital part of program planning and implementation
- 2. Analysis should be regular and routine (="short funding cycles") rather than being dependent on unpredictable granting regimes
- 3. Analysis should be embedded in the planning and delivery structures (focused on the "real world" and "natural experiments" rather than one-off research trials under strict scientific conditions)

Performance Data Analysis Recommendations

- 1. Incorporating the ability to analyse quality / performance data is a vital part of program planning, implementation and delivery, and should be embedded in the ORS from the outset
- 2. Analysis of quality / performance data should be regular and routine
- 3. Analysis of quality / performance data should not be dependent on unpredictable granting regimes
- 4. Resource needs for analysis of quality / performance data should be routinely identified, quantified and incorporated into annual operating budgets
- 5. Use existing resources and tools to facilitate analysis of quality / performance (e.g., the CAPTURE project <u>http://www.thecaptureproject.ca/</u>, see also Appendix 7)

Appendix 1: Obesity Surveillance

Introduction

Obesity is a global public health concern that has reached epidemic proportions. It is the most significant contributor to morbidity and mortality, and is a key risk factor for a wide range of chronic diseases. In Canada, the prevalence of obesity has increased dramatically in recent decades, with similar trends observed in the United States and Europe. Of great concern is the fact that obesity is increasing even more rapidly among children and adolescents than among adults. There is evidence indicating that obese children tend to remain obese as adults, thus placing them at increased risk of future health problems.

It is widely recognized that the use of surveillance systems and measurement tools is a key component in obesity prevention. England's National Obesity Observatory sums up the importance of obesity surveillance:

"Obesity is a complex condition influenced by many factors. Data collection on a large scale allows the monitoring of obesity at a population level and may provide data for indepth analysis of different causal and contributory factors, supporting the development of effective interventions and public health approaches to tackle obesity."²²

In this report, obesity measurements and indicators are discussed, along with pertinent issues associated with their use in population-level surveillance. This is followed by an overview of various surveillance programs worldwide and within Canada specific to children and youth, and a discussion of factors to consider when developing and implementing such a program.

Obesity Measurement

The most commonly used measure of obesity in population surveillance is Body Mass Index, or BMI. It is a proxy measure of total adiposity; elevated BMI is linked with current and future morbidity. BMI is calculated by dividing body weight in kilograms by height in meters squared. An adult BMI of $18.5-24.9 \text{ kg/m}^2$ is classified as a healthy weight; 25 kg/m^2 and above is categorized as overweight; and 30.0 kg/m^2 and above is classified as obese. For children, the relationship between adiposity and BMI varies with age and sex; thresholds are obtained by choosing a specific BMI centile on a child growth reference curve.

Among the many advantages of using BMI at a population level is its simplicity; it requires little operator training, the equipment required is not expensive, and height and weight can be measured with minimal body contact and with a good degree of accuracy. Because it has been widely used and measured around the world for some time, comparisons may be made between regions, populations, and over time. The availability of published thresholds and growth references for children is also an important factor, as equivalent growth references are not available for other measures.

Waist circumference is an indicator of obesity and is a measure of 'central adiposity'. Many studies in adults have indicated that an accumulation of fat around the waist is a predictor of disease risk; this is not as well-studied in children, though similar correlations have been found. There are

²² National Obesity Observatory. Obesity and Overweight Surveillance in England: What is measured and where are the gaps? November 2009. Available at <u>http://www.noo.org.uk/uploads/doc/vid_4483_Obesity_surveillance_data - Final_draft_12_11_09.pdf</u>. Accessed April 2010.

guidelines published by the National Institute for Health and Clinical Excellence (NICE) that give waist circumference thresholds for adults, but no such thresholds have been agreed upon for children's waist circumference. It should be noted that although England's HSE for children does collect waist and hip circumference measurements for children ages 11-15 years, there has been no published analysis of the data (though this is planned for the near future).²³

The disadvantages to using waist circumference as a proxy measure of obesity are similar to those for BMI; it does not adjust for the effects of height or body shape/composition, and different thresholds may be needed for different ethnic groups. While these measures may be less useful on an individual level as a result of these disadvantages, the issues tend to even out at the population level. For waist circumference, accurate measurement requires more training than for height/weight measurements, and it requires more body contact, which could present ethical issues in the collection of data.

Obesity may also be measured by a variety of other means, such as bioelectrical impedance analysis, hydrodensitometry, x-ray absorption, skinfold thickness, computerized tomography, and magnetic resonance imaging. However, these are generally unsuitable for population-level surveillance due to the expense of the equipment and/or practical difficulties.

Surveillance Programs

Canada

Canadian Community Health Survey (CCHS)

The CCHS is a cross-sectional survey that collects information related to health status, health care utilization, and health determinants for the Canadian population.²⁴ The target population is all Canadians aged 12 and over, with the following exclusions: individuals living on Indian Reserves and on Crown Lands, institutional residents, full-time members of the Canadian Forces, and residents of certain remote regions. The CCHS relies upon a large sample of respondents and is designed to provide reliable estimates at the health region level; a sample of 65,000 respondents is required on an annual basis. The survey was launched in 2000, with data collection occurring every two years; data are available for the 2001, 2003, and 2005 periods. In 2007, major changes were made to the survey design, and data collection now occurs every year.

Data collection occurs by a combination of telephone interviewing and field interviews at private dwellings. The field workers measure the height and weight of participants as part of the survey.

Canadian Health Measures Survey (CHMS)

The Canadian Health Measures Survey (CHMS) is a national health survey being conducted by Statistics Canada under the Statistics Act in partnership with Health Canada and the Public Health Agency of Canada.²⁵ The CHMS takes direct physical measurements from people aged 3 to 79 for the purpose of determining physical fitness, heart and lung health, obesity and hypertension. The

²⁵ Refer to http://www.statcan.gc.ca/cgi-

²³ National Obesity Observatory. Measures of Central Adiposity as an Indicator of Obesity. August. 2009. Available at http://www.noo.org.uk/uploads/doc/vid_5187_MEASURESOFCENTRALADIPOSITYAugust%2009_updated%20Feb%202010.pdf. Accessed April 2010.

²⁴ Statistics Canada. Canadian Community Health Survey. Available at <u>http://www.statcan.gc.ca/cgi-</u>

<u>bin/imdb/p2SV.pl?Function=getSurvey&SurvId=3226&SurvVer=1&InstaId=15282&InstaVer=5&SDDS=3226&lang=en</u> <u>&db=imdb&adm=8&dis=2</u>. Accessed April 2010.

measurements are made by trained specialists at a mobile examination centre that is located in specific sites. Participants also complete a household interview to provide information on nutrition, smoking habits, alcohol use and other factors, as well as demographic and socioeconomic variables.

The first cycle of the CHMS began in March 2007 and concluded in February 2009; the second cycle began in late August 2009. Over the next two years, the survey will visit 16 sites in 7 provinces to collect information about the general health and lifestyle characteristics of about 5,700 Canadians. This figure includes a target of 360 residents of Richmond this summer followed by 360 residents of the central and east Kootenay region in the fall. Statistics Canada is examining the possibility of adding a third site in British Columbia in 2011 to augment the survey sample.

British Columbia Adolescent Health Survey (AHS)

The AHS is designed to provide a comprehensive picture of the physical and emotional health of BC youth; it includes questions about perceptions of their current physical and emotional health, risky behaviours, health promoting practices, and broader issues such as family connectedness, school safety, and peer relationships. The AHS asks youth to self-report their height and weight.²⁶ The AHS was first conducted by the McCreary Centre Society in 1992, followed by three more surveys in 1998, 2003, and 2008. It is completed by BC public school students in grades 7-12; in the 2008 survey, 50 of 59 school districts participated, for a total of 29,440 students. Participation in the survey is voluntary and parental consent procedures are determined by the individual school districts. The AHS is administered by trained public health nurses in classrooms, with funding provided by the BC Ministry of Children and Family Development and the BC Ministry of Health, with additional support from other key Ministries.

British Columbia Health Assessment of School-Aged Children (HASAC)

HASAC is a project that aims to gather data on the nutrition, physical activity, smoking behaviour, and self-perception of grade 6 students in BC.²⁷ The first year of the project was 2008, in which 17 schools participated; most recently 19 schools took part in the 2009 assessment. The health assessment project is comprised of two parts:

- Student questionnaire: Developed in collaboration with the Centre for Behavioural Research and Program Evaluation at the University of Waterloo. Students complete this questionnaire under the supervision of school staff.
- Height and weight measurements: Trained project staff record each student's height and weight in a private area, away from the view of other students.

The project is managed by the Provincial Health Services Authority (PHSA) and funded by the BC Ministry of Healthy Living and Sport, PHSA and Child Health BC.

New Brunswick Elementary Wellness Survey

The Health and Education Research Group of the University of New Brunswick, in collaboration with Université de Moncton, coordinated a Provincial Elementary Wellness Survey in 2007-08.

²⁶ McCreary Centre Society. A Picture of Health: Highlights from the 2008 BC Adolescent Health Survey. Available at http://www.mcs.bc.ca/pdf/AHS%20IV%20March%2030%20Final.pdf. Accessed April 2010.

²⁷ Health Assessment of School-Aged Children. Backgrounder 2009. Available at

http://www.phsa.ca/NR/rdonlyres/9529AC51-BE69-45D2-B623-04EB82DF5E71/0/HASACFactSheet0809.pdf. Accessed April 2010.

Twenty-three elementary schools (a representative New Brunswick sample) participated in the survey.²⁸ The purpose of the research was to provide a provincial profile on four key areas:

- Physical activity
- Healthy eating
- Tobacco-free living
- Mental fitness

The survey had four different components, with data collection done via survey and direct measurements, as outlined below. Parent/guardian consent was required before data collection could occur.

- 1. Home Wellness Survey (Parents of Kindergarten to Grade 5 students)
 - Parents completed this survey at home, which included questions related to food choices, eating routines, level of and opportunities for physical activity, and tobacco use and exposure
- 2. Student Wellness Survey (Students in Grades 4 & 5)
 - Questions similar to those in the Home Wellness Survey
- 3. Direct Physical Measures (Students in Grades 1, 3, & 5)
 - Direct measurements included the standing & sitting height, weight, waist and hip circumferences of students
 - Adhered to the National Guidelines of Statistics Canada's Canadian Health Measures Survey
- 4. Physical Activity Monitoring (Students in Grade 5)
 - Students were provided with a physical activity monitor to record physical activity over a 7-day period
 - Monitor collected data on daily step, distances travelled, calories burned, and aerobic activity

After the data was collected, each school received individual feedback reports. Three provincial fact sheets were also disseminated under the following themes: Healthy Weights and Lifestyles, Social Influences and Environments, and Mental Fitness.

Manitoba Youth Health Survey

The Manitoba Youth Health Survey is a province-wide chronic disease risk factor surveillance system that was implemented in schools between 2005 and 2008,²⁹ with all eleven of the regional health authorities participating in the survey. Approximately 47,000 students in Grades 6-12 completed the survey; however, since two regions opted not to survey Grades 6-8, the 2009 provincial report only includes data collected from students in Grades 9-12.

The survey results were kept anonymous and confidential, and participation by students was voluntary. It consisted of 51 multiple choice questions on physical activity, nutrition, smoking, alcohol and drug use, and well-being. Self-reported height and weight were used to determine BMI. Feedback reports were produced at the school, school division, district, community, regional health

²⁸ University of New Brunswick Health & Education Research Group. Available at

http://www.unbf.ca/education/herg/wellness/index.php. Accessed April 2010.

²⁹ Partners in Planning for Healthy Living. Youth Health Survey Report 2009. Available at

http://www.healthincommon.ca/wp-content/uploads/Youth-Health-Survey-Report-2009.pdf. Accessed April 2010.

authority, and provincial levels. The next Youth Health Survey is anticipated to occur in 2011/12, and it is planned to include actual measurement of height and weight.

Nova Scotia Children's Lifestyle and School-performance Study (CLASS)

The 2003 CLASS was a survey of grade 5 students in Nova Scotia on health, nutrition, and lifestyle factors.³⁰ Of the 291 public schools in Nova Scotia with grade 5 classes, 282 (96.9%) participated in the study. Parental consent was received for 5517 students, providing an average response rate of 51.1% per school. One of the 7 provincial school boards did not allow measurement of height and weight, and these students were excluded from the analyses; this left a sample of 4298 children from 242 schools. The survey was comprised of three components:

- 1. **Parent survey**: Sociodemographic factors, including child's place of birth and residency, parents' marital status, income level, and educational attainment.
- 2. **School principal survey**: Information on school characteristics, including sales of soft drinks, type of food services, frequency of physical education classes, and possible financial restraints for recreation and gymnasium equipment.
- 3. **Student survey**: Included a modified version of Harvard's Youth/Adolescent Food Frequency Questionnaire, and included validated questions on the frequency of physical activities and the number of hours of sedentary activities. Height and weight was measured by CLASS representatives behind a mobile screen in student classrooms. Height was measured to the nearest 0.1 cm after students had removed their shoes, and body weight was measured to the nearest 0.1 kg on calibrated digital scales.

Raising Healthy Eating and Active Living (REAL) Kids Alberta

REAL Kids Alberta is an evaluation of grade 5 students across the province.³¹ The first phase of the survey was conducted in the spring of 2008, with the next phase planned for the spring of 2010. The survey is comprised of the following elements:

- Harvard Food Frequency Questionnaire for Children and Youth to assess dietary habits and nutritional intake
- Self-reported information on physical activity, screen time, and recognition of Alberta Health and Wellness programs
- Measurement of height and weight for the calculation of BMI
- Parent survey about the home environment
- School principal survey on school programs and environment

The survey administration to students, as well as height and weight measurements, is performed by trained evaluation assistants and a Regional Health Promotion Coordinator from the local health authority. Student's weights are measured using a scale that sends their weight to a remote read that the student cannot see. Measurements are not shared with the child, parents, or other school personnel.

In the first phase of the survey, a total of 3935 grade 5 students and 4209 parents participated from 174 schools across Alberta. A new group of grade 5 students will be participating in the next phase.

³⁰ Veugelers PJ, Fitzgerald AL. Prevalence of and risk factors for childhood overweight and obesity. *Canadian Medical Association Journal*. 2005; 173(6): 607-13.

³¹ REAL Kids Alberta Project Overview. Available at http://www.realkidsalberta.ca/overview.php. Accessed April 2010.

Ontario Childhood Healthy Weights Surveillance

The Ontario Childhood Healthy Weights Surveillance Steering Committee (OCHWSSC), comprised of representatives from government, public health units, and the Ontario Agency for Health Protection and Promotion (OAHPP), is spearheading a pilot project to develop a consistent approach for the surveillance of children's heights and weights.³² Two public health units are participating in the first pilot phase to test the processes and tools developed to date.

Each of the two public health units will be weighing and measuring heights of at least five Grade 2 classes in a minimum of two schools. Data will be collected for approximately 200 to 300 children; data collection will occur in April 2010, with dissemination of results planned for June 2010. This first pilot phase will involve the following processes:

- Communications with health units, school boards, principals, teachers, and parents
- Implied and expressed parental consent
- Training of staff to carry out weighing and measuring
- Data collection
- Data storage and transfer

England

Obesity prevalence data for children in England are collected from two main sources³³:

- Health Survey for England (HSE) children
- National Childhood Measurement Programme (NCMP)

HSE – children

The Health Survey for England (HSE) is an annual survey designed to measure the health and health-related behaviour of adults and children living in private households in England. Data is collected from a nationally representative population sample. It has been undertaken since 1991, though children were not included until 1995, and infants under two years old since 2002. In 2006, the HSE collected data on over 7000 children under 15 years of age.

Interviewers take height and weight measurements for all children, with the exception of infants under two years of age, for whom nurses measure length instead of height. Nurses also measure waist and hip circumference of all children aged 11-15 years. Data is also collected on the child's perception of their own weight (for children aged 8-15 years), and reported birth weight for all children. The HSE collects information on many of the recognized determinants of overweight and obesity, including dietary habits, physical activity, and attitudes to physical activity and healthy eating. This information is collected by interviewing either the parent or the child, depending upon the age of the child. Socio-demographic and household measures are collected as part of the adult HSE aid in further exploring influences on obesity.

HSE can provide estimates of obesity prevalence at national and regional levels, but not at lower geographical levels. A further limitation is that data relating to children from minority ethnic groups or specific age groups is limited by small sub-population sample sizes. Additionally, the HSE does not target specific age ranges, in contrast to the NCMP and the HBSC, in which large

³² See the RFP at http://evaluationcanada.ca/affichage/alpha_20100413.pdf

³³ National Obesity Observatory. Obesity and Overweight Surveillance in England: what is measured and where are the gaps? November 2009. Available at http://www.noo.org.uk/uploads/doc/vid_4483_Obesity_surveillance_data_-____Final_draft_12_11_09.pdf. Accessed April 2010.

numbers of children are measured with a focus on narrower age ranges. These surveys serve to complement the HSE and allow monitoring of trends among children of these ages.

NCMP

The National Child Measurement Programme (NCMP) measures the height and weight of all children aged 4-5 years (Reception year) and 10-11 years (Year 6) in mainstream primary and middle schools in England. Measurements are taken by Primary Care Trust staff within schools annually; the first NCMP was conducted in 2005/06. Data is collected for over 400,000 children in each year group. This provides a powerful tool for examining changes in child weight status and issues such as ethnicity for the specific age groups included in the NCMP.

Some limitations of the NCMP are that fewer individual characteristics are measured than in some other data sources such as the HSE or the HBSC, and no data on health-related behaviour are collected. Sex and ethnic group are recorded, as well as the lower super output area of residence, which provides some geographical information. Data quality issues affecting NCMP data include variation between Primary Care Trusts with regard to participation and opt out rates, accuracy of measurements and the use of different measurement tools, as well as when in the school year the measurements are taken.

USA – Arkansas

There are currently at least 13 states in the USA that have legislation for and are implementing school-based BMI-measurement programs. Arkansas' comprehensive statewide assessment program will be outlined here as an example of an American initiative.³⁴

In 2003, Arkansas implemented a statewide BMI screening program. In the first four years of the program, assessments were conducted on all students in grades K-12. In 2007 the periodicity of the assessments was changed to all students in even-numbered grades (K,2,4,6,8,10). In 2007/08 there was a 98.5% student participation rate, though only 82% of the data was valid for analysis. The remainder of the data either could not be assessed (18%; most commonly due to absence from school) or was invalid (0.04%). The height and weight measurements are taken by a trained school or student-health professional. This process is conducted privately, with the child facing away from the scale. There is a comprehensive reporting system in place for dissemination of the results; reports generated include Child Health Reports (confidential and available to each student's parent or guardian), School Reports, School District Reports, and a Statewide Report.

International

Health Behaviour in School-aged Children (HBSC)

HBSC was initiated in 1982 by researchers from three countries, and the following year it was adopted by the World Health Organization as a collaborative study. HBSC is a cross-national research study that aims to gain new insight into, and increase our understanding of, young people's health and well-being, health behaviours, and their social context. The first cross-national survey was conducted in 1983/84, the second in 1985/86, and since then it has been conducted every four years using a common research protocol. There are currently 43 participating countries and regions; Canada has been participating since 1989/90.³⁵

³⁴ Arkansas Center for Health Improvement. Assessment of Childhood and Adolescent Obesity in Arkansas Year Five (Fall 2007-Spring 2008) Statewide Report. Available at http://www.achi.net/PublicationsHPDP.asp#Childhood_Obesity. Accessed April 2010.

³⁵ Health Behaviour in School-aged Children. Available at <u>http://www.hbsc.org/overview.html</u>. Accessed April 2010.

The target population of the survey is young people attending school, aged 11, 13, and 15 years. The survey is carried out on a nationally representative sample in each participating country, with an average of 4500 young people being surveyed per country. HBSC is a school-based survey, with data collected through self-completed standard questionnaires developed by the international research network and used by all participating countries. The core set of questions fall into four categories, as follows:

- **Background factors**: demographics, social background (family structure, socio-economic status)
- Individual and social resources: body image, family support, peers, school environment
- **Health behaviours**: physical activity, eating and dieting, smoking, alcohol use, sexual behaviour, violence and bullying
- Health outcomes: symptoms, life satisfaction, self-reported health

Self-reported height and weight are collected in the Health outcomes section, and used to determine BMI.

Many countries supplement this base questionnaire with additional items that are of particular interest on a national level.

Summary

The following table summarizes the obesity surveys discussed in this document:

		Obesity Sur	veillance of Childr	en and Yout	h		
			Measured or Self-	# of		Sampling	
			reported	Participants		Strategy/Response	Most Recent
Region	Survey Name	Target population	height/weight	/survey	Frequency	Rate	Survey
	Canadian Community Health	All Canadians aged 12 yrs.				Sample survey with a	
Canada	Survey (CCHS)	and over	Both	65,000	Annual	cross-sectional design	2009
Canada	Canadian Health Measures	Canadians aged 3 - 79	Dath	F 700	Every 2 veers	1C sites in 7 provinces	2000
Canada	Survey (CHMS)	years	Both	5,700	Every 2 years	16 sites in 7 provinces	2009
		BC public school students				School classes randomly	
	Adolescent Health Survey			20.440		chosen from	2000
British Columbia	(AHS)	grades 7-12	Self-reported	29,440	Every 5 years	participating school	2008
British Columbia		-				districts; 85% of school	
	Health Assassment of School					districts participated	
	Agod Childron (HASAC)	Grade 6 students	Measured	19 schools	Pilot Project	School invitations	2009
	Aged Children (HASAC)						
						One-stage stratified	
						random sampling; 80.4%	
	Raising healthy Fating and				One-time: second one	school participation	2008
Alberta	Active Living (PEAL) Kide	Grade 5 students	Measured	3,935	planned for spring 2010	rate, with participation	
	ACTIVE LIVING (REAL) KIUS				plained for spring 2010	from 61.2% of grade 5	
						students in these	
						schools	
N da us ita a la a	Vauth Usalth Comos (VUC)	Students in modes C 12	Calf you anta d	47.000	One-time; second one	All schools invited to	2005 2000
Manitoba	Youth Health Survey (YHS)	Students in grades 6-12	Self-reported	47,000	planned for 2011/12	participate	2005-2008
	Ontario Childhood Healthy Weights Surveillance System (OCHWSS)	Grade 2 students	Measured	200-300	Pilot Project	2 Public Health Units	In Process
Ontaria						will Sample 5	
Untario						classrooms (minimum of	
						2 schools)	
Now Brunswick	Elementary Wellness Survey	Students in grades 1, 3, & 5	Measured	23 schools	One-time	Representative New	2007/08
New Brunswick						Brunswick sample	2007/08
	Children's Lifestyle and School- performance Study (CLASS)	Grade 5 students	Measured	4,300	One-time	96.9% of schools	2003
Nova Scotia						participated; average	
10000 300110						response rate 51.1% per	
						school	
England	Health Survey for England (HSE)	All children aged 15 years and under	Measured	7,500	Annual	Nationally	
	- children					representative	2008/09
						population sample	
	National Child Measurement	All children aged 4-5 years	Measured	800.000	Annual	All students in target	2008/09
	Programme (NCMP)	and 10-11 years	Wicasured	000,000	///////	population	2000,00
USA: Arkansas	School BMI Assessment	Schoolchildren in even-		217,000	Annual	98.5% of students	2008/09
		numbered grades (K,2,4,6,8,10)	Measured			participated; 82%	
						effective response rate	
			Self-reported	Avg. 4,500 per country	Every 4 years	Nationally	2005/06
International (WHO)	Health Behaviour in School- Aged Children (HBSC)	Youth attending school ages 11, 13, & 15 yrs.				representative sample,	
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						with approx. 1500 from	
						each age group	

Factors to consider when developing a childhood obesity surveillance program:

- *Measurement vs. self-reported*: Measurement is becoming the standard, as many studies indicate that self-reported data underestimate overweight prevalence.
- *Measurement type(s)*: BMI is most common, though measurements of central adiposity in children are increasingly being studied for risk factor prediction utility.
- *Frequency*: Many of the surveys described herein were either one-time projects or conducted on a multi-year basis, only the two surveys in England involve measured height and weight *and* are conducted on an annual basis.
- *Scope:* Most surveys described are designed to give a broad picture of the health and wellbeing of children, with physical measures being one small component. The exception is England's NCMP; while this survey only consists of height and weight measurements it is complemented by the national HSE, which includes such measurements as well as information on determinants of overweight and obesity.

Appendix 2: Rationale for Investment in Performance Data Analysis

The Context

This brief section concerns the topic of project or program evaluation, particularly how it is integrated with the delivery of a health care intervention and how it is resourced. Even more specifically, the following notes relate to the importance of *analyzing* performance and related data. Before addressing these matters directly, it is useful to distinguish evaluation and research. The terms are sometimes employed interchangeably, and they certainly do represent closely related arenas, since both involve collection and analysis of data. In fact, evaluators arguably must always be aware of the fact that the information they generate may one day be brought into the service of research per se. But how should these two domains continue to be properly distinguished? James Fain helpfully summed up the differences in a 2005 editorial published in *The Diabetes Educator*:³⁶

Research is designed to provide results that go beyond an individual program or project and can be generalized to other populations, conditions, or times. This places additional requirements on research. For example, evaluation considers the results on the population being served by the program or project within the context in which the program is provided. Research asks whether the population has the same characteristics as other groups and whether results can be applied in other contexts.

Evaluation, then, is very much focused on quality improvement (or maintenance/assurance) in a very specific health care context. Or, as DL Stufflebeam once said: *The purpose of evaluation is to improve, not prove.*³⁷

The Issue

Analyzing the causes and other significance attached to numerical facts is often the dimension that is missing from performance measurement; because of this, the aim of performance measurement to actually make a difference in the real world may be compromised. In the language of the well-known PDSA quality improvement cycle—

Plan (based on hypotheses) Do (including monitoring/testing) Study (or reflection) and Act (that is, take an improved next step),

—it seems that the *Study* component is frequently neglected and under-resourced. Leaders within the quality improvement arena have commented on this gap in different ways.

Example: United Kingdom

Few would disagree that the United Kingdom has been a leader in bringing a performance measurement/quality improvement paradigm to bear on all aspects of public services, including health care. In this regard, the commentary by Professor Nick Black of the London School of Hygiene and Tropical Medicine a decade ago is important. He identified the following six reasons why "research evidence has little influence on service policies."³⁸

³⁶ Fain JA. Is there a difference between evaluation and research? *Diabetes Educator*. 2005; 31(2): 150, 5.

³⁷ Stufflebeam DL. Evaluation Models: A New Direction for Evaluation. New York, NY: Jossey-Bass, 2001.

³⁸ Black N. Evidence based policy: proceed with care. *British Medical Journal*. 2001; 323(7307): 275-9.

- Evidence is dismissed as irrelevant
- Lack of consensus about evidence
- Other types of competing evidence
- Poor quality of knowledge purveying (including translation, communication, etc.)
- Policy-makers have goals other than effectiveness (e.g., social, financial)
- Social environments not conducive to policy change

Over half of these impediments suggest the importance of careful analysis and application of performance data, presumably supported by *routine processes* and *sustained resources* dedicated to such a cause.

Example: United States

The United States has also been a leader in quality improvement initiatives, sometimes known as the "quality movement." In general, this movement has been aimed at bridging the recognized knowledge-performance gap in health care.³⁹

The symposium *Expanding Research and Evaluation Designs to Improve the Science Base for Health Care and Public Health Quality Improvement* was held in 2005 under the auspices of the U.S. Agency for Healthcare Research and Quality. It reviewed a range of quality improvement (QI) interventions and the critical questions that arise in evaluation of these interventions, identified the strengths, weaknesses, and tradeoffs of alternative designs and methods for evaluating such interventions, and suggested strategies to facilitate possible changes in funding mechanisms, review processes, research and publication standards, and research training to help accelerate the development and spread of reliable QI intervention research methods.

A number of important results emerged from the discussion, reflected in the following summary of recommendations for combining QI interventions with evaluation focused on ways to increase both rigor and relevance:⁴⁰

By working at multiple levels of a system, by developing participatory relationships that transcend single projects, by considering different ways of knowing (e.g., qualitative and quantitative data), by fostering shared learning among participants in research, and by pursuing development alongside research in QI. To facilitate more quality improvement engagement, more research is needed on how to entice practice leaders into QI studies. Funding agencies could help create research infrastructures in real-world settings and fund in shorter cycles to take advantage of natural experiments in QI. [emphasis ours]

This same symposium discussed the well-known Chronic Care Model (CCM) of Ed Wagner as a paradigm for quality improvement. The most successful model for implementing the CCM in different settings has apparently been the so-called Breakthrough Series, a yearlong process that brings together teams from organizations wanting to make changes and expert facilitators. During learning sessions, teams plan the changes that are then tested in the action periods that follow. At the heart of each collaborative is an approach to QI developed by Gerald Langley and colleagues; it has three basic elements:

³⁹ Wandersman A, Duffy J, Flaspohler P et al. Bridging the gap between prevention research and practice: the interactive systems framework for dissemination and implementation. *American Journal of Community Psychology*. 2008; 41(3-4): 171-81.

⁴⁰ Available at http://www.ahrq.gov/qual/phqisymp/. Accessed April 2010.

- Set a clear aim
- Have a measurement system in place that charts whether or not progress is being made
- Implement a set of changes and test them using rapid cycle PDSA methods to determine whether or not the changes accomplish what they were hypothesized to do

Example: North Karelia Project, Finland

"North Karelia Project" was the name given to the influential community-wide cardiovascular health program in an eastern province of Finland. The encouraging health trend in North Karelia was already evident as early as 5 years after the launch of the Project, and it has been steadily confirmed in the decades since. For example, coronary heart disease (CHD) mortality dropped by approximately 80% over a 30-year period, a remarkable improvement that has been mostly tied to dietary changes and decreases in smoking.⁴¹ The biological markers confirm this conclusion: serum cholesterol and blood pressure have both greatly declined among men and women, although blood pressure has actually levelled off since 2002. The latter plateau may reflect the countervailing force of increasing body-mass index in the population, which only serves to underline that, even in North Karelia, the public health battle is never over. Indeed, as in all parts of the developed world, there is now a new emphasis in Finland on tackling obesity, physical inactivity, and the growing rate of type 2 diabetes.

According to one of its early leaders, Prof. Erkki Vartiainen, the evaluation component of the North Karelia Project was also very robust from the start.⁴² Indeed, scientists were an intimate part of the Project team, moving from village to village with other staff, gathering, analyzing, and reporting data at every stage. The capacity to track process indicators, as well as the "harder" outcomes related to disease rates, likely represents one of the key engines of success related to the Project. Evaluation strategies and structures continue to represent a key public health export from Finland to the rest of the world. It is no coincidence that the Data Centre for the WHO program known as MONICA (MONItor trends in CArdiovascular diseases) was established in the early 1980s in Helsinki, the capital of Finland. MONICA was supposed to help explain the diverse global trends in cardiovascular disease mortality. Similarly, the Chronic Disease Prevention Unit of Finland's newly formed National Institute for Health and Welfare offers leadership in the data collection system used by member countries of the Countrywide Integrated Noncommunicable Disease Intervention program. The momentum for this sort of intensive data collection and analysis may be partly traced to the remarkable outcomes of the North Karelia Project. There is an understandable desire to reproduce the positive results from what one commentator referred to as a "sweetspot" for public health studies.

Models of Investment in Performance Data Analysis

It would be useful to know how much to budget for the analysis of performance data. In practice, there is so much variation that formulas do not seem to be available. At best, the analysis component may be present, but it is usually "buried" as part of an overall monitoring/surveillance budget.

In the absence of quantitative rules-of-thumb, two potentially useful principles have been identified in the literature:

⁴¹ Puska P, Vartiainen E, Laatikainen T et al. *The North Karelia Project: From North Karelia to National Action*.

Helsinki: Helsinki University Printing House, 2009.

⁴² Personal communication. March 3, 2010.

Do Not Depend on "Grantland"

Sobo and co-authors produced a paper in 2008 examining a new area of health services research (HSR) known as "Implementation Science" (IS). Using key informant interviews, they identified impediments in evaluating health care interventions that arise from the standard practice of depending on research grants, and the resulting negative impact on project evaluation produced by grant-writing workloads, competition, grant timelines, etc. The authors dubbed this complex arena "grantland," summing up their observations in the following terms:⁴³

Institutional factors, particularly funding mechanisms and their entailments, structured and ensured high workloads. Attentions were divided (and morale and functionality compromised) not only by the high number of disparate projects undertaken but also by other affiliations and duties that membership in the career researcher world demands. Our combined, long-term research experience suggests that such interests are common in most grantfunded HSR settings. More particularly, most IS researchers in this study explicitly identified their work as still marginal to the mainstream of health care research. Thus, they may face challenges that other researchers might not.

What alternative do they suggest? Simply this: a more sustained approach to analyzing performance information. Or, in their words: "the careful implementation of different funding structures with longer time horizons might pay large dividends in terms of reducing stress as well as mitigating personnel changes that may interfere with health care quality improvement."

Embed Evaluation Structures and Funding in the Heart of the Program

The Quality Assurance Project, funded by the U.S. Agency for International Development (USAID), published a detailed report in 2002 on how quality improvement or quality assurance (QA) approaches in health care needed to mature. The authors identified five phases that are useful in understanding how a quality improvement/assurance regime could develop towards the most effective model. Several categories were identified in the progression to maturity, but for present purposes the funding element will be highlighted. The five phases of institutional growth in this arena are laid out the following table.⁴⁴

⁴³ Sobo EJ, Bowman C, Gifford AL. Behind the scenes in health care improvement: the complex structures and emergent strategies of Implementation Science. *Social Science and Medicine*. 2008; 67(10): 1530-40.

⁴⁴ Quality Assurance Project. *Sustaining Quality of Healthcare: Institutionalization of Quality Assurance*. 2002. Available at http://www.chs-urc.org/pdf/monographinstitQA.pdf. Accessed April 19, 2010.

Phase of Institutionalization	Resources for QA		
A	• Resources are allocated to support		
Awdreness	initial QA experiences.		
	 Resources are committed to finance 		
	QA expansion costs.		
Experiential	 Budget lines are added for QA 		
	activities or resources are allocated for		
	QA within existing budgets.		
Expansion	• Realistic budgets for QA activities are developed based on awareness of the true costs of doing QA.		
	Decision makers demonstrate a		
	whinghess to consistently anotate		
	adequate resources for QA.		
Consolidation	 Sufficient resources are allocated to support ongoing quality initiatives. Estimated QA resource needs are incorporated into annual operating budgets. 		
Maturation	 QA resource needs are routinely identified, quantified, and incorporated into annual operating budgets. Resources for QA are consistenly made available. 		
Source: Sustaining Quality of Hea	Ithcare: Institutionalization of Quality Assuran		

Evolution of Quality Assurance (QA) Funding through the Phases of Institutionalization

The report summed up the significance of the funding element in this way:

An important issue during institutionalization is the source of resources for QA. QA programs that are entirely dependent on donor resources tend to contract after outside funding ends. Committing the organization's own resources for QA activities by incorporating funding for QA into operating budgets is thus a key milestone on the road to institutionalization.

Recommendations for Program Evaluation/Analysis in Health Care

The preceding notes have focused on the important topic of program (or project evaluation) in health care. More specifically, the function of *analyzing* performance and related data has been examined. Even when there are resources attached to a program for performance and outcome data collection, raw data is not enough. There needs to be a collateral commitment to understanding the meaning of the resultant data set and translating conclusions into actionable steps for program quality improvement. What is at stake? If evaluation is robust and continuous, there is the potential for identifying high-quality, high-impact prevention programs of the variety seen in North Karelia. As noted earlier, the Finnish commitment to well-constructed, sustained evaluation helped to catapult their efforts from the merely promising to a being a recognized model for the rest of the world.
Guidance for setting up quality structures in any area of health care is offered by the illustrations and related conclusions found above. Three implications seem to be pertinent:

- 1. Analysis of quality or performance data is a vital part of program planning and implementation
- 2. Analysis ought to be regular and routine (="short funding cycles") rather than being dependent on unpredictable granting regimes
- 3. Analysis ought to be embedded in the planning and delivery structures (focused on the "real world" and "natural experiments" rather than one-off research trials under strict scientific conditions)

Appendix 3: HASAC - Background Information & Sample Report

The Health Assessment of School-Aged Children (HASAC) project is an initiative by the Provincial Health Services Authority (PHSA) with funding provided by the BC Ministry of Healthy Living and Sport, the PHSA, and Child Health BC. HASAC is designed to help BC schools plan health improvement activity by collecting data on nutrition, physical activity, smoking behaviour, and self-perception of grade six students.

The Health Assessment is taken during school hours and has been completed twice thus far, in 2008 and 2009. The 2009 survey covered 19 schools in total, 15 elementary schools and 4 middle schools from across British Columbia; this represented two more schools than the year prior. The assessment itself contains two components:

- A student questionnaire which was developed in collaborations with the Centre for Behavioural Research and Program Evaluation at the University of Waterloo and takes 20-40 minutes to complete
- Height and weight measurements

Specific measurements are taken by trained project staff in a private area, away from the view of other students. Participation is voluntary and data are kept both confidential and anonymous with none of the data linked to individual students. Data is gathers in January, February, and March, and schools receive a summary report by April. This summary is useful in:

- Creating an overall profile of student health behaviour
- Determining what areas of health behaviour require most attention
- Monitoring changes in health behaviour and results over time

The results of the survey have a number of implications for students, school staff, parents, families, and the community; they are meant to stimulate discussion and, ultimately, action. Such actions could include students organizing new initiatives such as intramural sports programs or organizing a student/staff health living challenge, school staff modelling health behaviours as an example to their students, and parents planning addition health related activities with the parent advisory council.

From a population health perspective, data is used to inform and complement a number of ongoing initiatives in the province such as Action Schools! BC, in addition to being combined with similar assessments from Alberta, Ontario, New Brunswick, and Nova Scotia to fill critical information gaps concerning child health behaviours.

Results from the 2009 survey were presented in a feedback report for schools, with findings in four main categories: healthy eating, physical activity, smoking behaviour, and 'other findings'. Each of these areas has important ties to students themselves, the school, and the community; understanding the connectedness and overlap of each of these domains is essential to combating the growing health concerns among our youth.

For healthy eating the connection between school and student is well-documented. Children who eat poorly do not perform well in school, and improving nutrition can result in improvements in academic performance. Questions from the survey focused on broad categories, asking students to recall the number of times they had consumed items like fruit and vegetables, whole grains, milk, high salt foods, or sweetened beverages. The survey also targeted the underlying knowledge and attitudes by identifying how many fruits and vegetables students believed they should be

consuming to be in good health, how often they eat breakfast or dine out, and how the school environment and social influences shapes their eating habits.

The physical activity section covers areas such as how many students meet Canada's Physical Activity Guide for Youth, when students are active, including questions specific to school- related sports and intramurals, social influences on physical activity, and how students perceive their own weight. The focus of the smoking section is on smoking behaviours such as whether or not students have tried smoking, and peer and family influences such as friends and family members who smoke.

The last part of the survey entitled 'other findings' is varied, as the name implies. It covers important psychological needs including autonomy, relatedness and competency, and other measures of health not covered in previous sections such as sleep habits and school connectedness.

Health Assessment of School-Aged Children Project



June, 2009







EXECUTIVE SUMMARY

This paper is presented to the Ministry of Education and Ministry of Healthy Living & Sport for consideration towards funding and implementing a provincial strategy to collect health information including height and weight measures of Grade 6 students. The paper summarizes the learnings achieved through the Health Assessment of School-Aged Children (HASAC) project, presents options for sampling methodology, and identifies key decision points and budget for a provincial strategy. The importance of the information collected through HASAC is emphasized by the study findings that approximately 31% of grade 6 boys and girls are overweight or obese (21% of boys and 12% of girls are considered obese). While these findings are from a non-representative sample of 19 schools, they are cause for concern given trends in the adult population.

Schools across BC are developing innovative policies and programs to improve student health, but there is no systematic measurement and monitoring of school aged children to assess the impact of these initiatives. BC is falling behind many of its Canadian and international counterparts in terms of collecting data in this area and is missing a key opportunity to inform planning at the local, provincial, national and international levels.

The Provincial Health Services Authority (PHSA) conducted the HASAC project in order to test a successful model for collecting data on the health status of grade six students in BC schools. The assessments include (a) a survey and (b) height and weight measurements.

PHSA demonstrated that this type of project can run smoothly, and that schools have used this information to support healthy school planning activities. Data were collected with attention to privacy and confidentiality, and no adverse effects on participating children were identified (i.e., there were no teasing, bullying or body image issues noted).

In order to implement a provincial level data collection project, there are numerous sampling strategies possible. Table 1 summarizes variations on three sample size options that will provide estimates of body mass index (BMI), various health behaviours and characteristics, and student perceptions of well-being. The three options vary by level of analysis/reporting and require increasing sample size (and therefore cost) but also offer increasingly more information on the provincial picture. All three options rely on the statistical notion of random sampling, and the assessment of entire classrooms rather than individual students.

Option/Level	Number of	Small Schools Included		Smal Ex	ll Schools cluded	Probability Proportional Sampling		
UT Analysis	Students	Number Cost Nu		Number	Cost	Number	Cost	
Option 1 Provincial	1,144	39	\$121,250 \$106/student	30	\$101,425 \$89/student	23	\$84,950 \$74/student	
Option 2 Provincial + trend	3,754	120	\$289,650 \$77/student	90	\$231,750 \$62/student	71	\$194,200 \$52/student	
Option 3 Provincial + trend + reg'l	5,487	211	\$472,400 \$86/student	145	\$344,150 \$63/student	126	\$304,850 \$56/student	

Key decision points required to select an option include:

- 1. What level of analysis/reporting is desired/affordable?
- 2. How critical is it to include all or some of the low enrollment schools?

Planning considerations for the project include: school interest in participating, classroom size, study frequency, scheduling the assessments, and assessing the majority of schools over time.

The next step is to align and integrate this initiative with existing Ministry and school programs and initiatives designed to improve the health of BC students. It is recommended that BC join with other provinces and jurisdictions by implementing a provincial strategy for collecting health information and measures on grade 6 students.

1.0 PURPOSE

At the request of the Ministries of Healthy Living & Sport and Education (Andy Hazlewood and Paige MacFarlane), this paper has been developed to summarize the learnings achieved through the Health Assessment of School-Aged Children (HASAC) project, present options for a sampling methodology and identify key decision points and budget for a provincial strategy to collect health information including height and weight measures of grade 6 students.

2.0 BACKGROUND

Routine body mass index (BMI) measures and comprehensive surveys are being done in a number of American states and the United Kingdom. Five other provinces in Canada (Nova Scotia, New Brunswick, Manitoba, Alberta, and Ontario) are engaging in different combinations of BMI and health behaviour surveys.

- Nova Scotia Over two years, randomly sampled 2,300 students in Grade 3, 7 and 11 and collected height, weight, waist circumference, and physical activity and health behaviour information.
- Alberta In 2008 Alberta administered surveys to 3,000 grade five students across Alberta and measured their heights and weights, and plan to repeat the same process on a new group of grade five students in 2010.
- New Brunswick Ongoing systematic, randomized data collection and surveys, including a Wellness Survey of 33,000 students in 2006-07 with students in grades 6-12 and a wellness survey, physical activity measure and height and weight measures of 22 randomly selected elementary schools in early 2008.

BC is falling behind its Canadian and international counterparts in terms of collecting data in this area and is missing a key opportunity to inform planning at the local, provincial, national and international levels as other jurisdictions move ahead.

Schools across BC are developing innovative policies and programs to improve student health. However, there is no systematic measurement and monitoring of school aged children to assess the impact of these initiatives.

Over the past two years, the Provincial Health Services Authority (PHSA) conducted two phases of the Health Assessment of School-Aged Children Project, in order to test a successful model for data on the health status of grade six students in BC schools. The HASAC student assessments include (a) a survey and (b) height and weight measurements.

The importance of the information collected through HASAC is emphasized by the study findings that approximately 31% of grade 6 boys and girls are overweight or obese (21% of boys and 12% of girls are considered obese). While these findings are from a non-representative sample of 19 schools, they are cause for concern given trends in the adult population. It would be of great benefit to determine if these findings are representative for all of BC and how they are changing over time.

PHSA demonstrated that this type of project is feasible and that schools, parents and students are enthusiastic about participating and about using the information for planning purposes. All data were collected with attention to privacy and confidentiality, and no

adverse effects on participating children were identified (i.e., there were no teasing, bullying or body image issues noted).

2.1 Highlights of Learnings/Outcomes

Different approaches in the administration of the assessment were tried based on recommendations from the evaluation and feedback received. In Phase 1, a team of trained health care providers, mostly nurses, administered both the survey and conducted the height and weight measures. In Phase 2, teachers administered the survey and where possible "non health" people from the local community (especially people having health related backgrounds or experience with children) were trained to conduct the height and weight measures.

Highlights of the learnings/outcomes from the HASAC project are:

Student Recruitment

• Passive consent processes result in a higher participation rate (85%) than active consent processes (70%).

Assessment

- Conducting the assessment during flu season results in lower participation rates.
- Phase I average times to complete the questionnaire (25 min) and measures (2 min per student) were identified, but the completion time increased significantly in Phase 2 (35-40 minutes) when additional questions were added in the healthy eating section.
- Physical assessment of height and weight is the most logistically challenging and resource intensive component of the assessment, but it is the only way to obtain accurate height and weight information on students as they typically under-report their weight and over-report their height.

Assessment Staff (Recruitment & Training)

- Lay people are difficult to find and once found, availability is difficult to ensure.
- The public health system is in the best position to identify groups and individuals to recruit in the community.
- People with a health background and those used to working with children are good candidates and they are also easier to train.
- Nursing students and retired nurses are a rich pool to draw from.
- In districts with several schools or in schools where local recruitment is very challenging, using small teams is a good option.
- It is possible to train non-health people to conduct the height and weight measures.
- Training can be successfully conducted with assessment staff on the same day, or the day before the in-school assessments.
- It is important to have one or more experienced assessment staff present where newly trained staff are located so that ongoing assessment and problem-solving support is readily available.

School/Teacher Engagement

• Widely varying rates of preparedness between schools and amongst teachers within schools were found. It will be important to strive for improved engagement with all the teachers who will be involved.

Outcomes

- An evaluation of the HASAC project revealed several key outcomes in the schools that participated:
 - The HASAC report findings assisted almost all of the schools in the development and/or revision of their Healthy School Improvement Plan, or other school-wide health plan (e.g., School Growth Plan) by providing schools with health

evidence. Based on the report findings, more than half of the schools focused their Healthy School Improvement Plan on healthy eating, physical activity and the physical environment.

- Many of the schools used the report findings to set priorities and/or targets for health-improvement activities related specifically to healthy eating and physical activity (e.g., eliminating foods high in sugar from school, increasing fruit and vegetable consumption, identifying fitness targets).
- Approximately half of the schools used the HASAC reports to develop and/or revise curriculum and course material for health-related classes (e.g., Healthy Living Exploration Class, Health and Career Education Class), health-related programs and activities (e.g., physical activity assessments and report cards, healthy lunch programs, healthy food activities), and school-based regulations (e.g., smoking ban for all parents dropping off/picking up students from school and when on field trips).
- The majority of schools have disseminated report findings to key stakeholders, and indicated those stakeholders became more involved with planning and/or improving healthy school activities as a result of receiving that information.

2.2 Conclusion of Phase II (2008-09)

To complete Phase II, the following deliverables will be finished by July, 2009:

- A *project implementation guide* containing step-by-step instructions, issues for consideration, troubleshooting options, communication tools, and suggestions as to how to improve the school recruitment and teacher engagement processes.
- A revised HASAC *questionnaire and report template* to streamline and improve the assessment and report generation process.

3.0 PROVINCIAL LEVEL HASAC PROJECT: OPTIONS AND COSTING

The following section describes options for design and methodology of getting data for provincial level monitoring and trending. It includes the assumptions as well as the costing for each of the three options.

3.1 Sample Size Options

This section provides three options and associated estimates of the minimum number of student questionnaires/assessments required for the HASAC project to provide estimates of body mass index (BMI), various health behaviours and characteristics, and student perceptions of wellbeing. There are numerous variations of sampling strategies possible and these three options provide some idea of the range of options available.

The first option provides the number of questionnaires/assessments required to assess changes in various health behaviours and characteristics in BC each year, while the second option allows for the detection of changes from year to year (i.e., trending patterns), and the third expands the second option to include estimation at a regional level within BC.

Option 1: Minimum number of students required to provide an estimate *at a provincial level* of the proportion of children with an overweight or obese BMI level, and of the health behaviours and characteristics assessed in the HASAC questionnaire.

The sample size required is **1,144** students (572 each of boys and girls). This sample size provides a 95% level of confidence with a 5% margin of error (Table 1 - See Appendix A). Given the past 80% participation rate of students, 1,430 students would have to be asked to participate to get the required number. (Note: this consideration would be true for all variations of all three options).

If an estimate of the proportion of students with an overweight or obese BMI *only* was desired (found in approximately 25% of the students), then 814 students would need to be assessed.

Option 2: Minimum number of students required to provide an estimate of changes *at a provincial level* on a *year-to-year basis* in the proportion of children with an overweight or obese BMI level, and of the health behaviours and characteristics assessed in the HASAC questionnaire.

The number of students required to detect a change of 5% in the proportion of children with an overweight or obese BMI level, and of the health behaviours and characteristics assessed in the HASAC questionnaire found in 75% of the students with a power of 0.8 (probability that the test will reject a false null hypothesis) and a type 1 error of 0.05 is **3,754**. Note that moving to a 3% difference increases the number of students required to 10,192 (Table 2 - See Appendix A).

If a detected change of 3% for BMI *only* was desired, then 3,576 students would need to be assessed.

Option 3: Minimum number of students required to provide an estimate of changes at a *provincial level* on a *year-to-year basis* and estimate *at a regional level* (Health Authority) the proportion of children with an overweight or obese BMI level, and of the health behaviours and characteristics assessed in the HASAC questionnaire.

The number of students required to detect a change of 5% in the proportion of children with an overweight or obese BMI level, and of the health behaviours and characteristics assessed in the HASAC questionnaire found in 75% the students with a power of 0.8 and a type 1 error of 0.05 while stratifying by HA is **5,487** (Table 3 - See Appendix A).

If a detected change of 3% for BMI *only* was desired, then 4,164 students would need to be assessed.

3.2 Assumptions

A number of assumptions were made in identifying the sample size options:

- All options rely on the statistical notion of random sampling which requires that students be randomly selected with a known probability. If random sampling is not used then the resulting sample is not a valid representation of the identified population (grade 6 students in BC), and estimates of health behaviours and characteristics are not reliable.
- In order to avoid stigmatization, the HASAC BMI assessment strategy involves assessing entire classrooms of students so that individual students do not feel that they are being singled out. This leads to a strategy of randomly selecting schools and then assessing the entire grade 6 population of the school.

• The resulting selection of clusters (classrooms) of grade 6 students must be taken into account in the determination of the final number of students required. The adjustment factor, known as the design effect, was determined from last year's survey to be approximately 1.5. This means that the number of student questionnaires/assessments has to be increased by approximately 50% to account for the effect of selecting clusters (classrooms or schools) of grade 6 students rather than selecting individual students.

3.3 Costs

Table 4 summarizes the three sample size options with associated costs. See Appendix B for a more detailed breakdown of costs.

The budget was developed based on the following parameters:

- The # of students required is fixed, but the # of schools required is an estimate only.
- The assessments should be spread over several months (e.g., Wave 1 from Sept Dec; Wave 2 from Jan – Mar).
- A combination of local height & weight measurement staff and small teams (traveling short distances) will be used wherever it is most efficient to do so.
- Training, size and composition of assessment teams will depend largely on the distribution of schools, but will also depend on the ability to recruit locally (See Appendix C for sample maps, depicting a variation of Option 2).

Option/Level	Number of	Small Schools Included		Sma Ex	ll Schools ccluded	Probability Proportional Sampling		
	Students	Number	Cost	Number	Cost	Number	Cost	
Option 1 Provincial	1,144	39	\$121,250 \$106/student	30	\$101,425 \$89/student	23	\$84,950 \$74/student	
Option 2 Provincial + trend	3,754	120	\$289,650 \$77/student	90	\$231,750 \$62/student	71	\$194,200 \$52/student	
Option 3 Provincial + trend + reg'l	5,487	211	\$472,400 \$86/student	145	\$344,150 \$63/student	126	\$304,850 \$56/student	

Table 4: Provincial Strategy Sample Size Options & Costs

4.0 KEY DECISION POINTS REQUIRED TO SELECT AN OPTION

This section describes the decisions that need to be made in order to select a sample size option for implementing HASAC at a provincial level in BC.

4.1 Level of Analysis/Reporting

What level of analysis/reporting is desired/affordable?

The three options presented vary by level of analysis and reporting. The increasing sample size results in increased cost but also offers increasingly more information on the provincial picture.

4.2 Low Enrollment Schools

How critical is it to include low enrollment schools?

From a statistical perspective the implications are minimal – it is possible to eliminate the low enrollment schools (22 or fewer grade 6 students) from the sample and still have solid provincial representation.

Including these schools will increase the number of schools in the sample and therefore increase the costs. For each of the three options, approximately 20% more schools will need to be recruited if the low enrollment schools are included. For example, in Option 1, approximately 39 schools will need to be recruited if low enrollment schools are included, whereas 30 schools are required if they are not included.

Is it desirable to pursue an option that will include some, but not all of the low enrollment schools?

Probability proportional to size (PPS) is a survey sampling technique that can be used to select schools for inclusion on the basis of size of the number of grade 6 students in the school. Using this technique results in larger schools more likely to be included in the sample. This approach allows for greater accuracy as the larger schools representation has a greater impact on the final estimates. An additional benefit is that PPS requires fewer schools to be selected to obtain the desired sample size of students. If PPS is used then small schools do not need to be excluded entirely. Some will be selected, although that number will be relatively small because they have a lesser chance of being selected.

5.0 PLANNING CONSIDERATIONS

A number of considerations when planning for a provincial strategy include:

5.1 School Interest in Participating

Due to the voluntary nature of the project, it is likely that some schools will decline to participate. Logistically speaking, this means that the project manager will need to approach the schools in the order that they appear on a randomly generated list of schools until a large enough sample size is obtained. This has several implications:

- It is possible that some school districts may appear to be over or under represented, but as long as the required overall sample size is achieved, a provincial level or regional analysis is valid.
- It is possible that some interested schools might not be included in the randomly generated list (including those who have participated in the past and are keen to continue participating in the future, or those who may be selected in Year 1 but not in Year 3).

One option might be to offer these schools the opportunity to go ahead with the questionnaire on their own. The costs associated with doing the survey only have not been included in the costing estimates. The costs to schools would include: printing of

surveys, consent forms, FAQs and teacher instructions; survey analysis & report generation; and some limited project coordination and administrative assistance time (scheduling & communication). The cost to add another 20 schools averaging 60 students each (1200 students total) would be approximately \$31,000.

5.2 Classroom Size

Classroom size should also be considered. In BC there are 1,249 schools that have 47,034 grade 6 students enrolled. Schools with 22 or fewer grade 6 students represent 449 schools and 4,357 grade 6 students. If small schools (less than 22 grade 6 students) were excluded the final pool of schools eligible for participation in the HASAC survey would consist of 793 schools that have 42,332 grade 6 students enrolled (Table 5 - See Appendix D).

If included in the sampling the low enrollment schools would be likely to have individual level reports that suppress results due to privacy concerns or low numbers of responses. For the very small schools, a report would not even be possible. For example, in the last round of HASAC one of the schools with 21 grade 6 students ended up with 15 students participating (three absent the day of the survey and three declined to participate). This resulted in reporting of some of the results for both sexes rather than separately. As an example, BMI categories, intake of fruits and vegetables and number of times various food groups that were eaten the previous day were reported in this manner while social influences on healthy eating were not reported at all for the school. One option for addressing the issue of reporting for low enrollment schools would be to group smaller schools with nearby schools if any happen to be selected in the sample.

5.3 Study Frequency

Ideally the HASAC study would be conducted every year. However, given resource constraints and that BMI and the various health behaviours and characteristics are unlikely to change dramatically from year to year, the assessment could be done every two years and still provide an accurate picture for BC. Three or more years between assessments would not provide timely information for schools and would be too large of a gap for accurate assessment of health changes over time. If the two year frequency is chosen, it is important to note that in order to make valid comparisons and draw conclusions about trending, it is imperative that the total required number of students be assessed during the course of a school year, and not stretched out over the course of two years.

5.4 Scheduling the Assessments

In order to maximize cost and resource efficiencies (i.e., conduct greater numbers of assessments using a fixed number of staff and equipment), it is recommended that the assessments be split into two "waves" (i.e., October to December and January to March). All assessments need to be completed by early March so that school reports can be generated in time to inform the next year's school planning.

5.5 Assessing the Majority of Schools Over Time

If it was deemed desirable to ensure that over time the majority of schools in BC were included in a round of assessments, varying periods of time would be needed depending on which one of the options presented was selected. Assuming that small schools are included it would take approximately 33 years for the majority of schools to be sampled under Option 1, 10 years under Option 2, and 7 years under Option 3. Excluding small schools would have a relatively small effect on the length of time required under each option. With changing enrollment levels and school closures these estimates would fluctuate.

6.0 CONCLUSION

The successful completion of two phases of HASAC has demonstrated the value of this project in generating important BMI data that do not currently exist for BC's grade 6 students, as well as additional information re: various health related behaviours that schools use to support their planning for healthy schools.

The next step is to align and integrate this initiative with existing Ministry and school programs and initiatives designed to improve the health of BC students.

It is recommended that BC join with other provinces and jurisdictions by implementing a provincial strategy for collecting health information and measures on grade 6 students.

APPENDIX A: Tables to Support Sample Size Options

Table	1
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Sample size required for estimating a given prevalence (assumes population size is approx 42000, 5% margin of error and 95% confidence interval required)						
Approximate prevalence	Sample size	Total sample size	Adjusted sample size			
%	required	boys and girls	(Design effect = 1.5)			
23	271	542	814			
50	381	762	1,144			
	001	, 02				

Table 2

	Sample	e size required for	testing year to year ch	aanges
Prevalence	Power	Sample	Total sample size	Adjusted sample size
difference		size required	boys and girls	(Design effect = 1.5)
23 +/- 3	0.8	3,226	6,452	9,678
	0.9	4,318	8,636	12,954
23 +/- 5	0.8	1,192	2,384	3,576
	0.9	1,595	3,190	4,785
75 +/- 3	0.8	3,397	6,794	10,191
	0.9	4,546	9,092	13,638
75 +/- 5	0.8	1,251	2,502	3,754
	0.9	1,674	3,348	5,022

Table	3
-------	---

Sample size required for testing provincial level year to year changes and regional level (HA) estimation						
50% prevale	ence					
Health	Sample	Total sample size	Adjusted sample size			
Authority	size required	boys and girls	(Design effect $=$ 1.5)			
FH	377	754	1,131			
IH	364	728	1,092			
NH	351	702	1,053			
VC	370	740	1,110			
VIHA	367	734	1,101			
Total			5,487			
25% prevale	ence					
Health	Sample	Total sample size	Adjusted sample size			
Authority	size required	boys and girls	(Design effect = 1.5)			
сц	284	568	852			
	204	568	821			
ΝН	277	538	807			
	203	560	840			
	200	500	834			
	270	550	034			
Total			4,164			

	Α	PPENDIX	X B:			
Provincial	Strategy	Sample	Size	Options	&	Cost:

	Option 1 Small	Option 1 Small	Option 1	Option 2 Small	Option 2 Small	Option 2	Option 3 Small	Option 3 Small	Option 3
	Schools Incl.	Schools Excl.	Proportional	Schools Incl.	Schools Excl.	Proportional	Schools Incl.	Schools Excl.	Proportional
# Schools (Approx)	39 ⁽¹⁾	30	23	120	90	71	211	145	126
# Students	1144	1144	1144	3754	3754	3754	5487	5487	5487
Administrative Assistance ⁽²⁾	4,875	3,750	2,875	15,000	11,250	8,875	26,375	18,125	15,750
Project Coordinator(s) (3) (4) (5)									
Project coordination	25,350	19,500	14,950	78,000	58,500	46,150	137,150	94,250	81,900
Travel expenses	7,000	5,300	4,000	21,000	16,000	13,000	40,000	25,000	22,000
0									
	0.500	0.000	4 500	7 500	5 500	4.500	40.500	0.000	7.000
Print comm materials (FAQs, consents)	2,500	2,000	1,500	7,500	5,500	4,500	12,500	8,800	7,600
Print questionnaire (vv aterioo)	3,500	3,250	3,000	4,500	4,250	4,000	5,500	5,000	4,500
Quest, analysis & report production	25,000	22,000	19,000	39,000	35,000	32,000	52,000	45,000	41,000
Scanning Driation of response	2,000	2,000	2,000	6,500	6,500	6,500	9,500	9,500	9,500
Printing of reports	5,000	4,000	3,000	12,000	10,500	9,000	17,000	14,000	12,500
Fauinment ^{(6) (7)}	250	225	200	2 500	2 000	1 500	3 750	3 000	2 500
-4	200			2,000	2,000	.,	0,100	0,000	2,000
In-School Measurements									
Height & weight meas. staff salary (8)	23,400	18,000	13,800	72,000	54,000	42,600	126,600	87,000	75,600
Height & weight meas. staff travel expenses	8,400	6,500	5,000	26,000	19,500	15,400	45,800	31,400	27,000
Administration (courier, mail, etc.) ⁽⁹⁾	850	650	500	2,650	2,000	1,550	4,600	3,200	2,750
	103,250	83,425	66,950	271,650	213,750	176,200	454,400	326,150	286,850
One-time Costs ⁽¹⁰⁾									
Website portal	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000	4 000
Video (interpreting & analyzing results)	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7 000
Video (to engage teachers re: value & utility)	7.000	7.000	7,000	7.000	7.000	7,000	7.000	7.000	7,000
	.,000	.,	.,	.,	.,000	.,000	.,000	.,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
TOTAL COST (11)	121,250	101,425	84,950	<u>289,650</u>	<u>231,750</u>	194,200	472,400	<u>344,150</u>	304,850
	\$106/student (12)	\$89/student	\$74/student	\$77/student	\$62/student	\$52/student	\$86/student	\$63/student	\$56/student

NOTES:

(1) More schools to visit = increased costs in project coordinator time (to recruit and coordinate logistics) & travel, slightly higher communication costs (FAQs and consents) and higher height & weight staff salary and travel.

(2) Responsibilities include support in scheduling assessments, preparing packages to ship to schools, developing contracts as necessary (e.g., scanner) and administering requirements for height & weight staff (e.g., contracts, criminal record cheques, insurance, school division approval). Estimate of cost = # hours required (5 hours per school) x rate of \$25/hour.

(3) Project Coordinator responsibilities include recruiting and training staff, providing direction to Admin Assistant, communicating with schools as required, and attending & overseeing assessments - Cost caluclated by identifying the # of hours required (13 hours per school) x rate of \$50/hour.

(4) It is recommended that advice on sampling (i.e. Epidemiologist's time) would be provided by the Ministry of Education.

(5) This budget asssumes that the project will be jointly endorsed by the Ministries of Healthy Living & Sport and Education. Project implications affecting cost include: less time required by Project Coordinator(s) to communicate with and recruit schools; less time required to satisfy school district research approval processes; epidemiological support re: random sampling will be available; and, access to existing communication mechanisms with schools (e.g., couriers) will be available.

(6) Includes scales, stadiometers, repairs, misc. In order to facilitate sharing of equipment, the assessment should be spread over several months (i.e. Wave 1 Sept-Dec; Wave 2 Jan-March) - additional equipment required with 40+ schools. Misc equipment includes batteries, pencils, etc.

(7) Acquisition of additional scales and stadiometers (height) is recommended; buying less expensive scales (\$50/each) and having students stand backwards is recommended (\$1000 will buy 4 scales @ \$50 each and 4 stadiometers @ \$200 each).

(8) Height & weight assessment staff salary includes training. It is calculated by identifying # staff, hours and rate per school (avg. of 4 staff per school for 5 hours per school @ rate of \$30/hour).

(9) Administration costs include only courier to and from scanner and back and forth to Waterloo (Ministry of Education to use internal mechanisms for sending info and materials to schools).

⁽¹⁰⁾ One-time costs are recommended to improve teacher engagement and usability of results by schools

(11) The estimated total costs do not include costs of future outcome or process evaluations of the project (1-5% of the total budget).

(12) The lower the proportion between the number of schools required to get X amount of students, the more cost effective the option will be per student.



APPENDIX C: Sample Distribution Maps



Appendix 4: Description of the SHAPES Tool and a Sample Student Questionnaire

The School Health Action, Planning and Evaluation System (SHAPES) was developed through a collaborative effort by the Propel Centre for Population Health Impact at the University of Waterloo and the Canadian Cancer Society. SHAPES is a survey which collects population-level data from elementary and high schools (grades 5 to 12) on topics relating to health behaviours. Data can be collected from each student at any given school, and has built-in quality control measures that ensure high quality data.

SHAPES currently consists of five modules:

Physical Activity Module: This module covers physical activity/inactivity behaviours, with some questions specific to school related enablers, and also includes BMI.

Smoking Behaviours Module: Covers demographics and behaviours such as amount, frequency and situation, in addition to attitudes, and the social and physical environment. The module often includes questions relating to behaviours around alcohol and drug use.

Healthy Eating Module: Designed in 2006 with nutrition experts from across the country, this module focuses on common healthy eating behaviours for school aged children and adolescents. This module underwent pilot testing in 2008 and has now been used successfully in a number of projects.

Mental Fitness Module: In an effort to evaluate and address important psychological needs, this module focuses on the needs for autonomy, relatedness, and competency while also evaluating prosocial behaviour, social responsiveness, and emotions.

Sun and Tanning Exposure Module: This is most recently developed module, and was adapted from a Canadian phone survey. The focus is on time in the sun, skin reactions to sun exposure, use of tanning beds and lamps, and sun protection behaviours.

Given that schools are often interested in collecting information from a number of these modules, two multiple topic modules have been created. The modules select questions from each of the above modules and ensure that it takes roughly 30-40 minutes for students to complete. Currently one module has a stronger focus on physical activity, while the other has a focus on smoking behaviours.

Participating schools receive a report 8 to 10 weeks after data collection which can be used to identify areas or strength and weaknesses, and strategies to improve on the findings. In practice the SHAPES study goes well beyond collecting and presenting data; these steps can be seen as phase 1 and 2 of a 4 phase project. Phase 3 involves working with the local community and school to form a plan for action based on identified priorities. Phase 4 takes this further by reflecting on the previous phases while ensuring that the plan for the future is aligned with local strategies and contexts.

Beyond the school setting data is compiled regionally, provincially, or even nationally to inform policy and planning, and aid in the development of tailored intervention strategies.

To all students:

Thousands of students, just like you, have been asked to take part in this survey. This important survey will help us to better understand health behaviour lifestyles (i.e., smoking, physical activity, healthy eating, & mental fitness - feelings & attitudes) among young people. Your responses will be added with the responses from other students to help us identify what can be done to encourage health. Your help today is very important.

This is NOT a test. All of your answers will be kept confidential. No one, not even your parents or teachers, will ever know what you answered. So, please be honest when you answer the questions.

Thank you!



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IAPES

5. Have you <u>ever</u> tried cigarette smoking, even	12. On how many of the last 30 days did you smoke one or more cigarettes?
 ○ Yes ○ No 	 None 1 day 2 to 3 days 4 to 5 days 6 to 10 days 11 to 20 days 21 to 29 days 30 days (every day)
 No No Do you think in the future you <u>might try</u> smoking cigarettes? Definitely yes Probably not Definitely not If one of your best friends was to offer you a cigarette would you smoke it? Definitely yes Probably not Definitely not Definitely not Definitely not Befinitely not Definitely yes Probably not Definitely not Definitely not Befinitely not Definitely not Probably not Definitely not Definitely not Probably not Probably not Definitely not Probably not Probably not Definitely not Probably not<	 Note 0 to to days 2 to 3 days 2 to 29 days 2 to 5 days 30 days (every day) 13. Have you ever tried any of the following? (Mark all that apply) Smoking cigarillos or little cigars (plain or flavoured) Smoking cigars (not including cigarillos or little cigars, plain or flavoured) Smoking roll-your-own cigarettes (tobacco only) Using smokeless tobacco (chewing tobacco, pinch, snuff, or snus) I have not tried these things 14. Have you ever had a drink of alcohol, that is more that just a sip? (a beer, wine cooler, glass of wine or shot of liquor) Yes No 15. Have you ever had 5 drinks or more of alcohol on one occasion? Yes No 16. Have you ever used or tried marijuana or cannabis? (a joint, pot, weed, hash) Yes No 17. Do you think in the future you might try marijuana or cannabis?
 Yes No Don't forget this column	 I have already tried marijuana Definitely yes Probably yes Probably not Definitely not

18. <u>HARD</u> physical activites are jogging, team sports, fast dancing, jump-rope and <u>any other</u> physical activities that increase your heart rate and make you breathe hard and sweat.

Mark how many minutes of <u>HARD</u> physical activity you did on <u>each of the last 7 days</u>. This includes physical activity during physical education class, lunch, recess, after school, evenings, and spare time.

For example: if you did 45 minutes of <u>hard</u> physical activity on Monday, you will need to fill in the 0 hour circle and the 45 minute circle, as shown below:

			Hou	rs			Minute	es	
Monday	•	1	2	3	4	0	(15)	30	•
			Hours	5			Minu	ites	
Monday	0	1	2	3	4	0	13	30	49
Tuesday	0	1	2	3	4	0	15	30	45
Wednesday	0	1	2	3	4	0	19	30	49
Thursday	0	1	2	3	4	0	19	30	45
Friday	0	1	2	3	4	0	19	30	45
Saturday	0	1	2	3	4	0	13	30	45
Sunday	0	1	2	3	4	0	15	3)	45

20. Do you participate in competitive or non-competitive sports or clubs <u>not</u> organized by your school?

○ Yes ○ No

21. Do you do individual physical activities outside of school (e.g. jogging, biking)?

○ Yes

- 22. Your closest friends are the friends you like to spend the most time with. How many of your closest friends are <u>physically active</u>?
 - ○ None
 ○ 2
 ○ 4

 ○ 1
 ○ 3
 ○ 5 or more

this column

O No

- 23. Outside of classes (e.g. phys ed) do you have any other chances to be physically active at school?
 - Yes No

19. <u>MODERATE</u> physical activities are lower intensity activities such as walking, biking to school, and recreational swimming.

Mark how many minutes of <u>MODERATE</u> physical activity you did on <u>each of the last 7 days</u>. This includes physical activity during physical education class, lunch, recess, after school, evenings, and spare time. <u>Do not</u> include time spent doing <u>hard</u> physical activities.

For example: if you did 1 hour and 30 minutes of <u>moderate</u> physical activity on Monday, you will need to fill in the 1 hour circle and the 30 minute circle, as shown below:

			Hou	rs		I	es				
Monday	0	•	2	3	4	0	(15)	•	45		
		ŀ	lours	5			Minu	tes			
Monday	0	1	2	3	4	0	13	30	49		
Tuesday	0	1	2	3	4	0	15	30	45		
Wednesday	0	1	2	3	4	0		30	45		
Thursday	0	1	2	3	4	0	15	30	45		
Friday	0	1	2	3	4	0	19	30	45		
Saturday	0	1	2	3	4	0	15	30	45		
Sunday	0	1	2	3	4	0	19	30	45		

24. Do you participate in before-school, noon hour, or after-school physical activities organized by your school (e.g. intramurals, non-competitive clubs)?

○ Yes ○ No ○ None offered

25. Do you participate in competitive school sports teams that compete against other schools (e.g. junior varsity or varsity sports)?

○ Yes ○ No

O None offered

- 26. <u>In the last 7 days</u>, how did you *usually* get to and from school?
 - O Actively (e.g. walk, bike, skateboard)
 - O Inactively (e.g. car, bus, public transit)
 - Mixed (actively and inactively)

27	 7. How much do your parel or guardians encourage physically active? Strongly encourage Encourage Do not encourage or d Discourage Strongly discourage 	nts, step-parents, you to be iscourage Don't forget this questior	28.	How much guardians active? (e buying you O Very su O Suppor O Unsupp O Very un	h do your pare support you g. driving you sporting equip upportive rtive portive nsupportive	ents, step- in being p to team ga oment, etc.	parents, or hysically mes,)
29.	<u>In the last 7 daγs</u> , how mar	ny hours per day d	id you <i>usı</i>	<i>ually</i> spend	d doing the fo	llowing ac	tivities?
	For example: if you spend about as shown below.	ut 3 hours watching T	V each day,	you will need	d to fill in the 3 h	our circle	
_	Motobing TV/movies		Hou	rs per Day			
_	watching I v/movies				• 5	۲	
		Hou	irs per Day				
-	a) Watching TV/movies	0 0	2	3 (4 5	6	
-	b) Playing video games		(2)		4 5	6	
=	d) Talking on the phone				4 (5)	6	
	e) Surfing the internet	0 1	2	3 (4 (5)	6	
-	f) Texting	0 1	2	3 (4 5	6	
	an argument with a good partner, being bullied or feeling pressured to do s you seek assistance from	I friend or roman excluded by othe something), how n the people belo	tic er teens, often do ow?	Never	Sometimes	Often	Most of the time
-	a) Parent or guardian			0	0	0	0
-	b) Sister or brother			0	0	0	0
	c) Friend			0	0	0	0
	d) Leacher or resource teach	ier		0	0	0	0
=	counsellor psychologist	s (e.g. school/guidai social worker)	nce	0	U	0	0
-	f) Another professional (e.g.	doctor, mental heal	Ith counsel	llor) 🔾	0	0	0
-	g) Solve without the help of c	others		Ó	0	0	0
31.	When you have a <i>persor</i> stressed a lot, juggling s activities, feeling sad/de angry, using alcohol and you seek assistance fror	<i>nal problem</i> (e.g. f school and other pressed, worried drugs), how ofte n the people belo	feeling or en do ow?	Never	Sometimes	Often	Most of the time
	a) Parent or quardian			0	0	0	0
-	b) Sister or brother			ŏ	ŏ	ŏ	ŏ
-	c) Friend			0	0	0	0
	d) Teacher or resource teach			0	0	0	0
	e) Other school professionals counsellor, psychologist, s	s (e.g. school/guidal locial worker)	nce	0	0	0	0
_	f) Another professional (e.g.	doctor, mental heal	Ith counsel	llor) 🔾	0	0	0
	g) Solve without the help of a	otners		\bigcirc	\bigcirc	\bigcirc	\bigcirc

32.	We are interested in how you feel about yourself and how you think other people see you. For each item, fill in the circle that best describes your feelings and ideas in <u>the last 7 days</u> .	Really false for me	Sort of false for me	Sort of true for me	Really true for me
	a) I feel I do things well at school.	\bigcirc	\bigcirc	\bigcirc	0
	b) My teachers like me and care about me.	0	0	0	0
	c) I feel free to express myself at home.	\bigcirc	\bigcirc	\bigcirc	O —
	d) I feel my teachers think I am good at things.	0	0	0	0
	e) I like to spend time with my parents.	\bigcirc	\bigcirc	\bigcirc	O —
	f) I feel free to express myself with my friends.	0	0	0	O —
	g) I feel I do things well at home.	\bigcirc	\bigcirc	\bigcirc	O —
	h) My parents like me and care about me.	0	\bigcirc	\bigcirc	O —
	 I feel I have a choice about when and how to do my schoolwork. 	0	\bigcirc	\bigcirc	0
	j) I feel my parents think that I am good at things.	0	0	0	0
	k) I like to be with my teachers.	\bigcirc	\bigcirc	\bigcirc	O —
	 I feel I have a choice about which activities to do with my friends. 	/ 0	0	0	\bigcirc
	m)I feel I do things well when I am with my friends.	\bigcirc	\bigcirc	\bigcirc	O —
	n) My friends like me and care about me.	0	0	0	O —
	 o) I feel free to express myself at school. 	\bigcirc	\bigcirc	\bigcirc	O
	p) I feel my friends think I am good at things.	0	0	0	O —
	q) I like to spend time with my friends.	\bigcirc	\bigcirc	\bigcirc	0
	r) I feel like I have a choice about when and how to do my	0	0	0	O —

household chores.

33.	How strongly do you agree or disagree with each of the following?	Strongly disagree	Disagree	Agree	Strongly agree	
	a) I feel close to people at my school.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	I
	b) I feel I am part of my school.	0	0	0	0	I
	c) I am happy to be at my school.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	I
	d) I feel the teachers at my school treat me fairly.	0	0	0	0	1
	e) I feel safe in my school.	\bigcirc	\bigcirc	0	0	1

34. For each item, fill in the circle that best describes what you are like as a person.	Definitely like me	not			De	finitely like me
a) I cut classes or skip school.	1	2	3	4	5	6
b) I make other people do what I want.	1	2	3	4	5	6
c) I disobey my parents.	1	2	3	4	5	6
d) I talk back to my teachers.	1	2	3	4	5	6
e) I get into fights.	1	2	3	4	5	6
f) I often say mean things to people to get what I want	. 1	2	3	4	5	6
g) I take things that are not mine from home, school, o elsewhere.	r 🕚	2	3	4	5	6
h) I often do favours for people without being asked.	1	2	3	4	5	6
i) I often lend things to people without being asked.	1	2	3	4	5	6
j) I often help people without being asked.	1	2	3	4	5	6
k) I often compliment people without being asked.	1	2	3	4	5	6
I) I often share things with people without being asked	I. (1)	2	3	4	5	6



.,

(4)

(7)

following did you drink?	U		2	3	4	5	0+
a) white or chocolate milk, or soy beverage (for example, one cup or small carton of milk)	0	0	0	0	0	0	0
 b) 100% fruit juice or vegetable juice (for example, one cup or drinking box-size serving of 100% orange, apple, or tomato juice) 	0	0	0	0	0	0	0
c) fruit-flavoured drinks (for example, one cup or drinking	0	0	0	0	0	0	0
box-size serving of Kool-aid [®] , Sunny D [®] , or lemonade) d) regular (non-diet) pop or soft drinks (for example, one cup or can of pop)	0	0	0	0	0	0	0
e) diet pop or soft drinks	0	0	\bigcirc	0	\bigcirc	0	\bigcirc
(for example, one cup or can of diet pop)	0	0	0	0	0	\sim	\sim
 f) sports drinks (for example, one cup or a small bottle of Gatorade[®]) 	0	0	0	0	0	0	0
g) high energy drinks	0	0	0	0	0	0	0
(for example, one cup or can of Red Bull [®])							
h) hot chocolate, cappuccino, or frappaccino (for example, one mug of hot chocolate)	0	0	0	0	0	0	0
i) tea, iced tea, or coffee (for example, one mug or medium coffee)	0	0	0	0	0	0	0
j) slurpees, slushies, or snow cones (for example, one small slurpee)	0	0	0	0	0	0	0
k) shakes (for example, one small milkshake)	0	0	0	0	0	0	0
 water (for example, one cup or small bottle of water) 	0	0	0	0	0	0	0

►YESTERDAY, from the time you woke up until the	Number of times							
time you went to bed, <u>how many times</u> did you eat the following foods?	0	1	2	3	4	5	6+	
a) salty snacks (for example, chips, cheesies, nachos, buttered	0	0	0	0	0	0	0	
b) nuts or seeds (for example, peanuts, peanut butter, sunflower seeds)	0	0	0	0	0	0	0	
c) lentils, chickpeas (for example, hummus), kidney beans, or other dried beans	0	0	0	0	0	0	0	
d) fish or shellfish (for example, canned tuna, salmon, trout, shrimp)	0	0	0	0	0	0	0	
e) breaded/fried chicken or breaded/fried fish (for example, chicken nuggets, fingers, fish sticks)	0	0	0	0	0	0	0	
f) one slice of pizza or a pizza snack (for example, a Pizza Pop®)	0	0	0	0	0	0	0	
g) one hot dog or sausage on a bun	0	0	0	0	0	0	0	
h) one hamburger or cheeseburger	0	0	0	0	0	0	0	
i) one sub or deli sandwich	0	0	0	0	0	0	0	
 j) whole grains (for example, whole grain bread or pasta, brown rice, whole grain cereal; like oatmeal, shredded wheat, or Mini-Wheats®) 	0	0	0	0	0	0	0	
k) fruit, not including juice (for example, fresh, dried, canned or frozen fruit)	0	0	0	0	0	0	0	
 dark green vegetables (for example, lettuce, broccoli, green beans) 	0	0	0	0	0	0		
m) dark orange vegetables (for example, carrots, squash, sweet potatoes/yams)	\bigcirc	0	\bigcirc	0	0	0	0	
n) other vegetables (for example, other raw or cooked vegetables, like corn)	0	0	0	0	0	0	0	
o) French fries or other fried potatoes (for example, wedges, hash browns, poutine)	0	0	0	0	0	0	0	
p) one package of candy or one chocolate bar	0	0	0	0	0	0	0	
 q) one slice of cake or pie, two cookies, one doughn one brownie, or other baked sweets 	ut, O	0	0	0	0	0	0	
r) ice cream, an ice cream bar, frozen yogurt, a Popsicle®, etc.	0	0	0	0	0	0	0	
000000000000000000000000000000000000000	\mathbf{O}							

9. In a usual school week <i>(Monday to Friday),</i> how many times do you do the following?	None	Less than once a week	1 time	2 times	3 times	4 times	5+ times
a) eat breakfast	0	0	0	0	0	0	0
b) eat lunch	0	0	0	0	0	0	0
c) buy lunch at school	0	0	0	0	0	0	0
d) eat foods purchased at a fast food place or restauran	t O	0	0	0	0	0	0
 e) eat snacks purchased from a vending machine, corner store, snack bar, or canteen 	er 🔿	0	0	0	0	0	0
f) eat as part of a breakfast and/or snack program at school, where food is supplied to you	0	0	0	0	0	0	0
g) eat meals while watching television	0	0	0	0	0	0	0
h) eat meals with at least one adult family member	0	0	0	0	0	0	0
On a usual weekend (Saturday and Sunday), how m do the following?	any tim	es do y	ou	None	1 time	2 times	3+ times
a) eat breakfast				0	0	0	0
b) eat foods purchased at a fast food place or restauran	t			0	0	0	0
 c) eat snacks purchased from a vending machine, corner or canteen 	er store,	snack b	oar,	0	0	0	0
d) eat meals while watching television				0	0	0	0
e) eat meals with at least one adult family member				0	0	0	0

41. If you do not eat breakfast every day, why do you skip breakfast? (Mark all that apply)

- I eat breakfast every day
- I don't have time for breakfast
 The bus comes too early
 I sleep in
 I'm not hungry in the morning
 I feel sick when I eat breakfast

Appendix 5: Sample School Administration Questionnaire

An example of a survey that may be used within schools is the BC Healthy Schools Network Assessment Tool.⁴⁵ It enables users to prioritize areas for improvement through a simple ranking and scoring system, and may be used by schools and their partners for the following purposes:

- Confirm the value of existing health-promoting policies and practices
- Stimulate discussion within and between their organizations and with other partners
- Support schools in their ongoing efforts to provide an environment and culture that promote healthy living and foster students' ability to reach their full learning potential

The assessment tool is divided into three main areas: teaching and learning, including physical education curriculum; school environment, including school policy, school connectedness, and physical environment; and community partnerships.

⁴⁵ Available at http://www.bced.gov.bc.ca/health/hsnetwork/hsn_assessment_tool.pdf.

BC Healthy Schools Network Assessment Tool

Ministry of Education & Ministry of Health







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INTRODUCTION

We all have an interest in the health of our communities – not just people's physical health but health in the broadest sense. The World Health Organization defines health as "a state of complete physical, mental and social well-being" and "the extent to which an individual or group is able to realize aspirations...satisfy needs and...change or cope with the environment."

On some levels, health is a very personal responsibility. At the same time, policy makers working in the public sector have a unique opportunity to influence health in a broader, more systemic way. For example, policies that acknowledge individual needs, respect diversity and recognize achievement are all part of building healthy working and learning environments, and we know from experience as well as from research that, when we feel good, we're more effective in our jobs and better able to cope with the stresses of daily life.

The same is true for children. An extensive body of literature supports the common-sense idea that, when children are healthy they learn better, achieve more and have higher self-esteem. Families play a critical role in supporting children's health, as do others across our communities. However, as the Provincial Health Officer noted in a special report on children's health in 2003...

"Of the four major systems of influence [affecting children] – family, friends or peers, school and community – the school is the only one that is an organized public institution amenable to being structured and mobilized to support societal goals."

With their primary focus on learning, the school years provide an opportunity for children to systematically explore ideas about healthy living, supported by professional educators and – increasingly – partners from the health and community sectors. The school years also coincide with significant developmental phases when students are particularly vulnerable to health-compromising behaviours such as unhealthy eating, risk taking, and alcohol and drug misuse.

Educators and policy makers have long been aware of these connections and much has been done across B.C. to support students' health through the school setting. For example, many schools and school boards have programs and policies addressing issues such as physical safety, nutrition, tobacco use, anti-bullying, empathy, diversity, and making healthy lifestyle choices.

The BC Healthy Schools Network is a voluntary organization of schools whose common goal is to address the wide variety of academic, social and emotional concerns of students through the lens of comprehensive school health. Literature clearly demonstrates that interrelated, comprehensive approaches are more effective than solutions addressing only one component.

Based on this, the Ministries of Education and Health have established the *BC Healthy Schools Network Assessment Tool* which schools can use to systematically assess how their school is doing with respect to the key components of a healthy school. Once the assessment is completed, schools will have established priority areas of focus. This information will help schools methodically develop school health improvement plans which will lead to more students realizing the academic, social and emotional benefits of a healthy school.

Health and learning are interdependent. Children who are sick, tired and afraid have trouble learning (Allensworth, 1993) while cognition, concentration and cooperation are all enhanced when students are healthier (Kolbe, 1985).

SECTION 1: HEALTHY SCHOOLS

What Are Healthy Schools?

The concept of healthy schools emerges from a global movement that recognizes two key ideas:

- healthy children are better able to learn, and
- schools can directly influence children's health.

Healthy schools embrace – and incorporate into every aspect of their daily work and culture – the view that schools, families, the health sector and the community share responsibility for children's healthy growth and intellectual development.

Being a healthy school means incorporating policies and practices that support students' health and overall well-being, recognizing the links between health and student achievement. Comprehensive school approaches are a *way of working* that becomes everyday practice.

Health promotion is defined by the World Health Organization as "the process of enabling people to increase control over and improve their health."

What is the Healthy Schools Network?

The Healthy Schools Network is BC's expression of Comprehensive School Health. The concept of Healthy Schools arose out of the 1980's United Nations goals of "Health and Education for All" and remains guided today by the 1986 Ottawa Charter on Health which recognized the role of everyday supportive environments on health.

The Healthy Schools Network is best described as a voluntary network of BC schools that are implementing a healthy schools approach in an action research setting. Network schools support the notion of Comprehensive School Health which is an integrated approach to health promotion that gives students numerous opportunities to observe and learn about positive healthy behaviours and influence healthy decision-making.

Benefits of System-Wide Approaches to School Health

To achieve their potential, school children must participate fully in educational activities and to do this best, they need to be healthy, attentive and emotionally secure.

Health and education are far-reaching complex services and it is clear that effective health promotion will only take place through integration of resources (human and financial) and ongoing coordination and cooperation at both local and provincial levels. Health-promoting actions have important educational benefits. The links between health and well-being of students and their capacity to benefit from educational opportunities and attain high standards of achievement are established. Good health narrows the opportunity gap and has significant positive effects on personal, social and educational achievements.

Data associated with today's school-aged population has raised increasing concern with regard to increased physical inactivity, increased overweight and obesity and decreased emotional wellness (increased depression and anxiety) among today's youth. Becoming a healthy school can positively influence levels of physical activity, healthy eating, and improve school connectedness leading to increased emotional and physical well-being, all of which can significantly reduce preventable illnesses.

The extent to which a nation's schools become "health-promoting schools" will play a significant role in determining whether the next generation is educated and healthy.

- Jack Jones, World Health Organization

SECTION 2: BC HEALTHY SCHOOLS NETWORK ASSESSMENT TOOL

The *BC Healthy Schools Assessment Tool* enables users to prioritize areas for improvement through a simple ranking and scoring system. Schools and their partners can use the tool to:

 confirm the value of existing health-promoting policies and practices,

- stimulate discussion within and between their organizations and with other partners
- support schools in their ongoing efforts to provide an environment and culture that promote healthy living and foster students' ability to reach their full learning potential.

The *BC Healthy Schools Network Assessment Tool* does not dictate any particular course of action. Neither is it intended as an external evaluation, but rather, this internal assessment tool provides an organized way to think about, integrate and build on the many healthpromoting ideas and activities that already influence the culture of schools.

The BC Healthy Schools Network Assessment Tool encourages a broad-based, comprehensive approach to health promotion by supporting dialogue and focus in three inter-related areas:

- teaching and learning,
- school environment, and
- partnerships.

SECTION 3: AREAS FOR ACTION

Ultimately, health-promoting polices and practices will have the greatest impact when they fully address all three areas in an integrated, comprehensive way. Many schools find that their initial emphasis on one factor, such as physical activity or healthy eating, leads to a broader set of policies and practice which, combined, create a school culture that supports greater student health and achievement. The following section describes each of the three areas for action.

Area 1: Teaching and Learning

This area for action includes what students learn, how they are taught, and which resources teachers use for instruction. It includes both formal and informal learning. Health promoting schools have policies and practices that support both formal and informal teaching and learning about health and wellness. Teaching and learning can take place in the school or in the wider community.

For example, the B.C. curriculum prescribes healthrelated outcomes that require students to attain the knowledge, skills and attitudes needed to make healthy choices. These outcomes can be achieved through prescribed learning in areas such as Health and Career Education, Home Economics and Physical Education, and through school and classroom based initiatives and resources that support curriculum-based learning by encouraging students to make healthy choices in a fun, challenging and engaging way.

Healthy choices can also be encouraged through informal learning throughout the school environment. Examples include:

- having more healthy foods available;
- offering a range of extra-curricular activities that reflect students' diverse interests;
- creating opportunities for students to build healthy relationships with others in the school that encourage feelings of safety and connectedness; and
- modeling healthy choices and behaviours.

Area 2: School Environment

This area for action includes the physical environment of the school and school grounds, as well as the 'feel' of the school environment, its culture, and the values embodied by its teachers, staff and students.

Healthy schools feel welcoming and safe. Their physical environments, including such things as playground equipment, safe drop off zones/parking lots, water supplies, sanitation services and food preparation facilities, are designed to minimize the likelihood of injury and illness.

Healthy schools also foster a caring, nurturing, respectful environment that gives students a feeling of connection to their school and school community.
For example, they may engage students in discussing topics such as responsible decision-making, leadership and caring for others, and developing responsive skills to issues such as bullying, intimidation, and harassment.

Some schools have student-led councils that meet regularly to plan school activities, helping to foster a sense of connection and enhance students' self-esteem.

Area 3: Partnerships

Partnerships are the basis of successful health promotion. This area for action includes supports and services within a school that contribute to students' physical and emotional health, as well as partnerships with people and groups outside the school that contribute to healthy school communities.

Working in partnership is a fundamental principle of healthy schools and yet, forming sustainable partnerships can be challenging. Mutual understanding, trust and respect between all partners is central to building lasting working relationships. Successful partnerships with schools:

- are based on effective communication and strong interpersonal relationships;
- fit with schools' focus on learning;
- build on links between health and learning;
- have common aims, objectives and goals;
- are consistent with school district policy on sponsorship;
- require health and education professionals to understand and value each other's roles;
- ▶ are flexible; and
- ▶ take time to develop.

Families are key partners supporting and contributing to a healthy school environment (i.e., through the Parent Advisory Councils). Partnerships between schools and health authorities can play a critical role in providing health-related information and support. Other organizations beyond the school also have a rich array of information, resources and services to offer. Healthy schools use a range of different strategies to foster ties to the wider community. These may include activities such as taking part in neighbourhood cleanups or engaging other schools in health-focused competitions, such as a fun walk-to-school contest.

SECTION 4: USING THE HEALTHY SCHOOLS NETWORK ASSESSMENT TOOL

The following section outlines specific elements for analysis as they relate to one of the *Areas for Action* discussed above.

Templates have been developed to provide schools with an easy process for systematically assessing how their school is doing with respect to the key components of a healthy school. This process will enable schools to establish priority areas for improvement.

Phase I: Team

Successful use of this tool is dependent on a team approach. When schools develop teams or committees with a central focus on school health, they are more successful in developing sustainable change because all interested parties are part of the process. Success is dependent on involvement of all key stakeholder groups including - but not limited to - students, school administrators, teachers (i.e., physical education specialists, home economics, health counselors and physical activity generalists), parents, school facility and school administrative assistance staff, and relevant professionals from the community (i.e., community nutritionist, tobacco resource coordinator, public health nurse, municipal recreation administrators and members of the local business community). Secondary and middle schools are encouraged to involve students to increase the impact of strategies.

Phase I: Checklist

- Provide an overview of Healthy Schools to staff including:
 - purpose;
 - concept; and
 - benefits.
- ☑ Select a Healthy School Team.
- ☑ Designate *contact person*.

Phase II: Assess

Answer all questions related to the *Areas for Action*. Questions relate to teaching and learning, school environment, and partnerships.

The team is asked to rate the level of policy or practice within the school currently associated with each question (minimally, moderately or thoroughly) followed by a points tally and calculation of percentage (see sample on page 10). This will provide trend data on the level of attention the school is placing on each area and element of comprehensive school health.

Phase II: Checklist

- ✓ Utilize the Healthy Schools Assessment Tool to conduct an environmental scan of the school.
 - In addition to your Healthy School Team, consider involving all staff.
 - Celebrate and communicate areas of strength.

Examples of assessment strategies may include:

- Posting the school assessment tool in the staff room
- Utilizing a series of staff meetings
- Developing student and staff surveys
- Interviewing staff, parents, students and health professionals
- Network with other schools for ideas

When Phase II is completed, schools will have a clear picture of their strengths and areas for improvement.

Phase III: Prioritize

- Highlight the areas you have ranked "1's" and "3's" and determine which area/s will be a priority focus for your school this year.
- Utilize the Approach to Action Section to summarize your areas for focus (p. 27-32)
- Review what a multi-factorial approach to identifying health issues encompasses (p. 29)

Phase III: Checklist

- ☑ Brainstorm a variety of possible strategies to deal with your #1's and #3's (areas you identified for attention).
- ☑ Look for *clusters* (overlapping areas of concern).
- ☑ Utilize a multi-factorial approach.
- An Action Scoring Index is provided (Appendix I) to assist in prioritizing your strategies (optional).

Phase IV: Action

Using the results from Phases II and III, the school health team develops a plan for creating positive change. School health plans outline:

- the school's goals with respect to each priority area for improvement;
- strategies for achieving desired results;
- timelines for implementation; and
- a communication strategy.

Implementing prioritized areas for improvement that require little cost, little time and little effort and will be highly valued by the school at large will gain some quick wins for the school. This helps the school experience the benefits of the healthy schools approach, creating greater school support, enthusiasm and interest to concentrate on other areas that will require more time, effort and cost.

Phase IV: Checklist

- Develop Healthy School Plan For Improvement.
- Formulate an inquiry question around the plan.
- ☑ Utilize S.M.A.R.T. (specific, measurable, attainable, realistic and timely) goals.
- Seek feedback and support through the Network of Performance Based Schools meetings.
- \square Evaluate and reflect on results in the spring.

CONCLUSION

Healthy schools combine and integrate resources wherever possible, enhancing and extending schoolbased expertise, reducing duplication of effort and developing strong connections between schools, families, service providers and the wider community.

Creating an inventory of existing health related initiatives before beginning the assessment process will be helpful in larger school settings and will aid in identifying potential duplication.

Implementing a healthy school approach involves a continual process of consultation, action and reflection, and keeping everyone informed throughout the process. This generates feelings of commitment and connectedness to the school or service, and ownership of the strategies that are implemented.

Healthy school approaches do not require more work, just a *way of working* that becomes everyday practice. When there is leadership support and everyone is committed to the healthy schools concept, it is possible for health promoting activities to be well planned, coordinated, implemented over the long-term, and sustainable.

BC Healthy Schools Network

Assessment Tool

USER GUIDE: THE PROCESS

The essential purpose of the *BC Healthy Schools Assessment Tool* is to create an understanding of comprehensive school health and to provide a framework for discussion and assessment which will yield an environmental health scan of the school.

STEP 1:

- Having selected your Healthy School Team, use a consensus model to complete the BC Healthy Schools Network Assessment Tool.
- Check off either *minimally*, *moderately* or *thoroughly* as it relates to each element factor.
- Tally points to determine *percentage of attention* for each *element*. Enter into Assessment Tool Summary (Appendix III; p. 35) for trend analysis.
- Tally points to determine *percentage of attention* for each *area*. Enter into Assessment Tool Summary (Appendix III; p. 35) for trend analysis.

STEP 2:

- Transfer #1's or #3's to the Approach to Action Summary (Worksheet; p. 31).
- Look for clustering or common areas of concern.
- Brainstorm a variety of possible strategies for consideration (Appendix II; *Strategic Scoring Index Template* p. 34).
- Evaluate and prioritize the strategies using the Strategy Scoring Index (Appendix I; p. 33 - optional)

STEP 3:

- Establish a School Health Plan implementing the top priority strategies.
- Utilize SMART goals (Specific, Measurable, Achievable, Relevant, Time-limited).

STEP 4:

- Formulate an inquiry question around the plan (Network of Performance Based Schools).
- Review and reflect throughout the year.
- Seek feedback and support through the Network of Performance Based Schools meetings.
- Evaluate, document and celebrate results in the spring of each school year.

The sub-components of the assessment elements have applicability in virtually every instructional setting (primary, intermediate, middle and secondary). If your School Health Team strongly feels that one or two of these components are not applicable, just enter a '5' for that component. In this way, it will not skew your percentage results and it will ensure that you will identify the issues which need to be addressed.

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	<u>Ι</u> μοιοηθμίγ	5				5	TOTAL:
	Moderately	£		m	m		
	ylleminiM	1	-				
	 ASSESSMENT ELEMENT #1 Health and Career Education Curriculum Kindergarten to Grade 7 Integrated Resource Package (2006) Grade 8 and 9 Integrated Resource Package (2005) Planning 10 Integrated Resource Package (2004) 		A. To what extent does our school teach all of the health-related prescribed learning outcomes in the curriculum?	B. To what extent do our students achieve the health-related learning outcomes in the prescribed health curriculum?	C. To what extent is the instructional time sufficient, for students to meet the prescribed learning outcomes?	D. To what extent has our school assessed its capacity to deliver effective instruction of the health curriculum?	ELEMENT #1 SCORE (TOTAL POINTS /20) x 100

The following are guidelines to assist with determining assessment levels. The broadest possible engagement of stakeholders will ensure the most meaningful assessment results.

1=MINIMALLY	3=MODERATELY	5=THOROUGHLY
Have not considered the issue	Have addressed the issue	Have addressed the issue from
or only peripherally aware of the	from either a teaching and	a multi-factorial approach,
ssue as it relates to students	learning, school environment or	including teaching and learning,
	partnership perspective at some	school environment and
	point in time	partnership

AREA 1: TEACHING AND LEARNING

This area for action includes what students learn, how they are taught, and which resources teachers use for instruction. It includes both formal and informal learning.

B.C. curriculum prescribes health-related outcomes that require students to attain the knowledge, skills and attitudes needed to make healthy choices. These outcomes can be achieved through prescribed learning in areas such as Health and Career Education, Home Economics and Physical Education, or through school and classroom-based initiatives such as Action Schools! BC or HeartSmart Kids, and resources such as bc.tobacco facts. These initiatives support curriculum-based learning by encouraging children to make healthy choices in a fun-challenging and engaging way

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ASSESSMENT ELEMENT #1					Level of im for the sch	portance ool
 Health and Career Education Curriculum Kindergarten to Grade 7 Integrated Resource Package (2006) Grade 8 and 9 Integrated Resource Package (2005) Planning 10 Integrated Resource Package (2004) 	γlleminiM	Moderately	<u></u> Υροιοησηγ	yll6T strio9	Percentage	fo ləvəl % noitnəttA
	-	m	S			
A. To what extent does our school teach all of the health-related prescribed learning outcomes in the curriculum?						
B. To what extent do our students achieve the health-related learning outcomes in the prescribed health curriculum?						
C. To what extent is the instructional time sufficient, for students to meet the prescribed learning outcomes?						
D. To what extent has our school assessed its capacity to deliver effective instruction of the health curriculum?						
ELEMENT #1 SCORE (TOTAL POINTS /20) x 100			TOTAL:		÷ 20 x 100	%

ASSESSMENT ELEMENT #2					Level of im for the sche	portance ool
 Physical Education Curriculum Kindergarten to Grade 7 Integrated Resource Package Grade 8 to 10 Integrated Resource Package Grade 11 & 12 Integrated Resource Package 	V lleminiM	Moderately	Τhoroughly	γllaT stnio٩	Percentage	fo ləvəl % noitnəttA
	-	m	5			
A. To what extent does our school teach all of the physical education related prescribed learning outcomes in the curriculum?						
B. To what extent do our students achieve the physical education related learning outcomes in the prescribed PE curriculum?						
C. To what extent is the instructional time sufficient, for students to meet the prescribed learning outcomes?						
D. To what extent has our school assessed its capacity to deliver effective instruction of the physical education related curriculum?						
ELEMENT #2 SCORE (TOTAL POINTS /20) X 100			TOTAL:		÷ 20 x 100	%
AREA #1 SCORE (ELEMENTS #1 AND #2 TOTALS)		GRA	ND TOTAL:		÷ 40 x 100	%

MENT	
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EA 2:	
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This area includes the physical environment of the school and school grounds, as well as the 'feel' of the school environment, its culture, and the values Ð

	STUDENT LEADERSHIP
TOBACCO USE	 Healthy schools encourage the input and participation of all students in the development of school policies and practices.
Smoking continues to be the leading cause of preventable disease,	Student participation in the development of school policies improves
disability and premature death in BC, and there continues to be a strong link between smoking as a teen and smoking as an adult.	school engagement and student support for healthy school policies – i.e., policies related to improved access to healthy foods within the
 In 2004, 13 percent of BC's youth (ages 15 to 19) reported smoking.^V 	school environment, matters of bullying and policies related to high risk
Of those reporting ever having smoked, almost all reported smoking their	behaviours like tobacco use.
first cigarette in their teen-aged years, and almost 50 percent of those who reported ever having smoked, reported doing so by the age of 15.	 Working with the business community, the education sector is well informed of the specific attributes currently sought by BC employers.
Among smokers aged 15 and older, 85 percent had smoked their first	Healthy schools enhance student opportunity to build the necessary skills
cigarette by age 18, and girls continued to be more likely than boys to	and abilities sought by employers.
begin smoking in their early teens. ^{vi}	
According to BC's provincial health officer, young people are less likely to	SAFE SCHOOLS
start using tobacco products when they have not already smoked by the	 Feeling safe at school is linked to better physical and emotional health
age of 19. ^{vii}	and lower likelihood of risk-taking.
 Addressing smoking at an early age will reduce the number of school- 	Students who take fewer risks tend to have better health, get better
aged children using tobacco and will significantly impact prevalence rates	grades, and have greater post secondary education aspirations.
as adults.	Youth who participate in post secondary education are also more likely
	to report having had a high level of academic achievement and social
	engagement in high school. ^{viii}
_	

ASSESSMENT EI EMENT #1					Level of im for the sch	portance ool
School Policy Healthy schools are committed to policies/guidelines and practices that support both formal and informal teaching and learning about health and wellness. (School guidelines or practices must be consistent with School District policies)	γlleminiM	Moderately	 Τμοιουση	Vll6T stnio9	Percentage	% Level of noitnettA
	-	m	5			
A. To what extent do our policies and practices:						
i. address healthy eating?						
ii. address physical activity?						
iii. address standards associated with the Safe and Caring Schools Framework?						
iv. address BC's Social Responsibility Standards?						
v. address promoting school connectedness?						
vi. address fair play and non violence on school grounds, school buses, and school events?						
vii. address tobacco prevention and exposure to second-hand smoke?						
viii. address medical alert (seizure, diabetes, asthma, anaphylaxis) management?						
ix. address emergency preparedness?						
x. address staff wellness?						
xi. address values and respect for diversity?						
B. To what extent does our school review and revise policies/guidelines according to changing needs of the school?						
C. To what extent does our school promote opportunities for staff, parents and students to learn about practices that contribute to a healthy school?						
D. To what extent does our school invite stakeholder participation (staff, parents, students, community) in the development of its healthy school policies?						
E. Does our school consistently empower everyone in the school community to have a role in promoting a healthy learning environment?						
ELEMENT #1 SCORE (TOTAL POINTS /75) X 100			TOTAL:		÷ 75 x 100	%

							1
ASSESSMENT ELEMENT #2					Level of im for the sche	portance ool	
School Connectedness Healthy schools foster a caring, nurturing, and respectful environment giving students a feeling of connection to their school and school community. For example, healthy schools engage students in discussing topics such as responsible decision- making, leadership and caring for others and developing skills to deal with issues	γlleminiM	Moderately	Τhoroughly	Vll6T stnio9	Percentage	fo ləvəJ % noitnəttA	1
such as bullying, intimidation and harassment.	-	m	5				
A. To what extent does our school consistently assess student feelings of school connectedness?							
B. To what extent does our school use strategies such as promoting active involvement of students in classroom activities?							
C. To what extent does our school acknowledge and celebrate positive behaviour?							
D. To what extent does our school set clear guidelines for appropriate behaviour?							
E. To what extent does our school encourage and support students to ask for help when they are experiencing problems?							
F. To what extent does our school take action to solve problems reported by students, parents and/or teachers?							
G. To what extent does our school encourage healthy communication between adults and students daily?							
H. To what extent does our school:							ı — —
i. promote respectful communication among staff and students?							
ii. promote fair and consistent disciplinary practices among all students?							
iii. promote fair play and non violence on school grounds, school buses, and school events?							
iv. encourage students and adults to report harassment and bullying?							
v. provide support for those who have experienced harassment/bullying?							
ELEMENT #2 SCORE (TOTAL POINTS /60) X 100			TOTAL:		÷60 x 100	%	

ortance ol	fo ləvəl % noitnəttA													
Level of imp for the scho	Percentage		-											
	Vll&T strioq													
	Τhoroughly	5	ensuring:											
	Moderately	ĸ	vuildings by											
	v lleminiM	-	side school b											
ASSESSMENT ELEMENT #3	Physical Environment Healthy schools feel welcoming and safe. Their physical environments, including such things as playground equipment, safe drop off zones/parking lots, water supplies, sanitation services and food preparation facilities, are designed to	minimize the likelihood of mjury and liness.	A. To what extend does our school provide a safe physical environment inside and o	i. floor surfaces are slip resistant?	ii. stairways have sturdy guardrails?	iii. poisons/chemical hazards are labelled and stored safely?	iv. first aid equipment and safety procedure notices are available?	v. all areas have sufficient lighting?	vi. secluded areas are sealed off or supervised?	vii. smoke alarms, sprinklers and fire extinguishers are installed and operational?	viii. pedestrian safety mechanisms are in place for students, adults and visitors on school grounds and when students are arriving and leaving school property?	ix. school buses and other vehicles do not idle while loading or unloading students?	x. spaces and facilities for physical activity meet or exceed recommended standards?	xi. school grounds and school buildings are pleasant and welcoming (uncluttered, non-crowded, well- lit croffet. free well meinteined?)

					Level of imp for the scho	ortance ol
ASSESSMENT ELEMENT #3 (continued) Physical Environment	γlleminiM	Moderately	Λιγοιοη∂μιλ	Vll6T strio9	Percentage	fo ləvəJ % noitnəttA
	Ļ	n	5			
B. To what extent has our school given consideration to improvement in the following	areas:					
i. indoor air quality?						
ii. safe playground equipment (design, maintenance, age-appropriate)?						
iii. access to safe drinking water?						
iv. traffic safety?						
v. food safety – Our school offers food safety to food program volunteers?						
vi. promoting and supporting hand washing before and after meals and snacks?						
vii. access to adequate hand washing facilities that are supplied with soap?						
viii. outdoor sun protection provided for students and staff?						
ELEMENT #3 SCORE (TOTAL POINTS /100) X 100			TOTAL:		÷100 × 100	%

ASSESSMENT ELEMENT #4					Level of im	iportance
Healthy Eating Environment The school supports, promotes and reinforces healthy eating behaviours which foster life-long healthy development and enhance students' ability to learn.	/	γi	λιι	۱۱y		
Children who suffer from poor nutrition score much lower on tests of vocabulary, reading comprehension, arithmetic and general knowledge (Brown L, Pollitt E. 1996).	(llemini	oderate	Jorougl	leT stric	อียาตอวาล	o ləvəl o roitnətt
Integrating healthy eating into school policy and practice is a responsibility to be met by schools, families and communities.	W	W	IL	bd	bd	₩ ₩
Policies that address environmental influences such as nutrition education, vending machine choices, drinking water access and food sales can impact healthy eating (Booth S et al. 2001)	-	m	5			
 A. To what extent does our school promote and support healthy eating at school by making the healthy choice the easy choice? 						
B. To what extent has our school implemented BC's Guidelines for Food and Beverage	Sales in BC	Schools in tl	he following	j areas:		
i. beverage vending machines?						
ii. snack vending machines?						
iii. school stores?						
iv. cafeterias?						
v. fundraising events?						
C. To what extent does our school provide a positive environment during lunch time, encouraging students to stay on school property?						
D. To what extent does our school incorporate the following policies/practices to prom	note healthy	decision m	aking?			
i. competitive pricing to promote healthy food choices?						
ii. discourages the use of food as a reward?						
iii. limits access to less nutritious foods during school hours?						
iv. provides adequate time for students to eat?						
v. provides adequate space for students to eat?						
E. To what extent does our school provide school meal programs based on need?						
F. To what extent does our school nutrition program provide healthy food and beverage choices?						

					Level of imp for the scho	ortance ol
ASSESSMENT ELEMENT #4 (continued) Healthy Eating Environment	γllεminiΜ	Moderately	ζιγοιοπαμγλ	Vll6T stnio9	Percentage	fo ləvəl % noitnəttA
	-	ŝ	5			
G. To what extent does our parent advisory committee support healthy eating, by providing healthy food and non-food items when fundraising?						
H. To what extent are students invited to participate in the development of school nutrition policies and practices?						
l. To what extent does our school staff model healthy eating?						
 To what extent does our school address the in-school needs of students with medical alerts (seizure, diabetes, asthma, anaphylaxis) maximizing the ability of all children and their parents/guardians to participate in their school community? 						
K. To what extent does our school partner with parents and health professionals to protect children with medical alerts from potential harm?						
ELEMENT #4 SCORE (TOTAL POINTS /95) X 100			TOTAL:		÷ 95 x 100	%

ASSESSMENT ELEMENT #5					Level of im for the sche	portance ool
Healthy schools create education settings that address tobacco issues through their Healthy schools create education settings that address tobacco issues through their curriculum, working with their community and developing policies in line with community standards (exception: ceremonial use of tobacco - i.e., 'smudging'). Students who smoke are encouraged to quit, or to manage their smoking in	γlleminiM	Moderately	Υροιοησηγία Α	Vll6T stnio9	Percentage	fo ləvəl % noitnəttA
accordance with school policy.	-	m	5			
A. To what extent does our school prohibit the use of tobacco (cigarettes, cigars, cigaril by students , 24 hours a day, in the following locations:	llos, chewing	j tobacco ar	id snuff, etc.)			
i. school buildings?						
ii. school grounds, including personal vehicles?						
iii. school sponsored events off school grounds?						
iv. school vehicles?						
B. To what extent does our school prohibit the use of tobacco (cigarettes, cigars, cigaril by staff and visitors , 24 hours a day, in the following locations:	llos, chewing	g tobacco ar	id snuff, etc.)			
i. school buildings?						
ii. school grounds, including personal vehicles?						
iii. school sponsored events off school grounds?						
iv. school vehicles?						
C. To what extent does our school have policies and practices in place to effectively manage tobacco use violations by students?						
D. To what extent does our school have policies and practices in place to effectively manage tobacco use violations by staff and visitors ?						
E. To what extent does our school provide access to prevention/early intervention programs for students at risk for substance use?						

					Level of im for the scho	portance ool	
ASSESSMENT ELEMENT #5 (continued) Tobacco Free Living	YllsminiM	ylətarəboM	Τhoroughly	Yll&T stnio9	Percentage	% Level of Moitnetten	
	-	e	5				
F. To what extent does our school have the following mechanisms in place to support t	he reductior	l of tobacco	use:				
i. support groups?							-
ii. educational opportunities?							
iii. referral to community services?							
v. partnership with local health authority tobacco resource coordinator?							
ELEMENT #5 SCORE (TOTAL POINTS /75) X 100			TOTAL:		÷ 75 x 100	%	

ASSESSMENT ELEMENT #6					Level of im	portance
Active Living Each year more than three quarters of Canadian deaths result from four types of non-					for the scho	loc
communicable diseases including cardiovascular disease, cancer, type 2 diabetes and respiratory disease, many of which can be attributed to physical inactivity.	Kllen	erately	λјųɓno	Vll6T 23	əbetne	vel of noitr
Promoting physical activity enhances optimal growth and development, self- esteem and confidence, opportunities to meet new friends, increased focus and	iiniM	роМ	Thor	tnioq	Perce	9. Le 1911A
concentration, strong bones and muscles and healthy hearts.	1	e	5			
A. To what extent does our school provide opportunities for students to be physically active on a daily basis?						
 B. To what extent does our school measure physical activity levels of students? (time, intensity) 						
C. To what extent does our school provide opportunities for staff to be physically active on a daily basis?						
D. To what extent does our school enhance student interest and participation in physical activity by ensuring programs are creative, relevant and fun?						
E. To what extent does our school measure student satisfaction of our physical activity initiatives to ensure ongoing engagement?						
F. To what extent does our school acknowledge the link between student learning and p	physical activ	ity by:				
i. integrating physical activity opportunities throughout the school day?						
ii. promoting walking/cycling to school?						
G. To what extent does our school promote and support student participation in extra curricular activities?						
ELEMENT #6 SCORE (TOTAL POINTS /40) X 100			TOTAL:		÷ 40 x 100	%
AREA #2 SCORE (ELEMENTS #1 TO #6 TOTALS)		GRAN	ID TOTAL:		÷ 445 x 100	%

This area for action includes supports and services within a school that contribute to students' physical and emotional health, as well as partnerships with people and groups outside the school that contribute to healthy school communities.

projects, while others grow and develop over many years from a shared vision. Most paremeters. It is important to remember that building lasting relationships takes time an	artnerships ir id commitme	nvolve a mix ent to a com	of core part mon goal. ^{ix}	ners and oth	er communi	ty
					Level of imp for the scho	oortance ool
ASSESSMENT ELEMENT #1 Community Partnerships	γlleminiM	Moderately	Δυσιοη Ιμοιοησημ	Vll6T strio9	Percentage	fo ləvəl % noitnəttA
	. 	ε	5			
A. To what extent has our school established strong links with school district, health au	uthority and o	community	service provi	iders in the f	ollowing are	as:
i. healthy weight management (Public Health Nurse, Community Nutritionists, BC Medical Association)?						
ii. substance use (tobacco, alcohol, illicit drugs)?						
iii. depression/anxiety (District Psychologist, Community Mental Health Professionals)?						
iv. physical activity (i.e., Public Recreation facilities, Action Schools! BC)?						
v. school nutrition (i.e., Making it Happen: Healthy Eating at School, Breakfast For Learning)?						
vi. district School Health Coordinator (where applicable)?						
vii. other supportive associations?						
B. To what extent does our school invite regular participation by community experts to assist in school health initiatives?						
C. To what extent does our school provide families with information about community health related programs?						
D. To what extent does our school explore funding opportunities with government, nongovernmental agencies, and the private sector to support school health initiatives?						
E. To what extent does our school link to community volunteer opportunities to enhance student/community connectedness, preparing youth for transition from school?						

Level of im for the sch	الانمانالا الموطودعلوالا الموامولالا الموامولالا الموامولا	1 3 5	nost	unity	TOTAL: + 65 x 100	GRAND TOTAL: ÷ 65 x 100
	ASSESSMENT ELEMENT #1 (continued) Community Partnerships		F. To what extent does our school explore what community partnerships are m appropriate to link with?	G. To what extent does our school create formal partnerships within the comm to support development and sustainability of healthy school initiatives?	ELEMENT #1 SCORE (TOTAL POINTS /65) X 100	AREA #3 SCORE (ELEMENT #1 TOTAL)

Prioritize

Approach to Action

A MULTI-FACTORIAL APPROACH

A key element in healthy schools is to take a multifactorial approach to addressing the identified health issue. It has been identified in both research and practice that a comprehensive approach is significantly more effective than a single pronged approach. Figure 4.5¹ clearly illustrates the effect of this approach at a provincial level.

1 The Impact of Diabetes on the Health and Well-being of People in British Columbia, Provincial Health Officer's annual Report, 2004



① Lowest ever smoking rate.

2 Fifty per cent reduction in unintentional injury death rates.

③ Data show increased alcohol intake and binge drinking episodes by youth, but also a decline in alcohol-associated mortality.

(4) In 2003, the overall rate of physical inactivity was 41 per cent in British Columbia.

(5) In 2003, 46 per cent of individuals in British Columbia, considered themselves overweight or obese.

SAMPLE WORKSHEET: APPROACH TO ACTION

The Approach to Action worksheet (p. 31) will assist you in developing a comprehensive approach to address the issue/s that your school has identified as its key areas of focus.

EXAMPLE WORKSHEET

	bna pnin Dnin	idəsəT Lear	loo tuəmı	Scho Environ	stihs	entre9
Multi-tactorial Strategies	 Increase time allotment to Health and Career Curriculum Provide grade appropriate and engaging resources 	 Provide in-service sessions for staff on the impact of healthy eating on student performance 	 Fully implement the BC School Food/Beverage Guidelines Alter lunchtime schedule to provide student play time before eating 	 Register for the Fruit and Vegetable Snack Program Establish preferred pricing for healthy foods Schedule <i>Healthy Food Assemblies</i> to celebrate the new school culture 	 Contact the local Health Authority to have a nutritionist sit on our School Health Team 	 Have a nutritionist review school food sale pricing practices
(^) sn		٤S	SIBILITIES	SOG PNIS	CLUSTE	
Area of Foc	>	>	>	×	>	>
Issues	To what extent does our school teach all the health related prescribed learning outcomes in the curriculum?	To what extent is the instruction time sufficient for students to meet the health related prescribed learning outcomes?	To what extent does our school promote and support healthy eating at school by making the healthy choice the easy choice?	To what extent does our school provide opportunities for staff to be physically active on a daily basis?	To what extent has our school established strong links with school district, health authority and community service providers in the area of school nutrition	To what extent does our school incorporate competitive pricing to promote healthy food choices?
Level	-	-	ε	-	-	-

	6uin1	eəJ bne Qni	Теасћ	ţuər	nnorivn ∃ lo o	ομος		artnerships	1
Multi-factorial Strategies									
(∕) sr				ŝSILITIES?	IISSOd DNI	сгизтев	1		
Area of Focu									
Issues									
Level									

When determining the strategies for your school, be sure to consider the following:

- Impact on Student Achievement
- Cost
- ► Time
- Commitment
- Achievability

ACTION

Use the BC Healthy Schools Network Assessment Tool to influence positive changes in your school. The results of the assessment will assist the school health team in defining your school's areas for improvement and highlighting your progress over time in creating a healthier learning environment.

- Health promotion interventions are most effective when they encompass a multifaceted approach.
- Classroom education should be implemented in combination with changes to the school environment and/or family/community participation.
- When initiating the healthy schools approach, it is important to implement all components inherent to this approach (Effective Public Health Practice Project; Ontario, 2004)

APPENDIX I – STRATEGY SCORING INDEX

STRATEGY SCORING INDEX[×]

Use the Strategy Scoring Index to assist your school in deciding which strategies are best to incorporate based on assessment of cost, time, commitment and achievability. Appendix II (p. 34) provides schools with a Strategy Scoring Index Template.

IMPACT ON STUDENT	How significant will this action be o	n student achievement?	
ACHIEVEMENT	1 = Not Significant	2 = Moderately Significant	3 = Very Significant
1300	How expensive will it be to plan and	l implement this action?	
	1 = Very Expensive	2 = Moderately Expensive	3 = Not Expensive
	How much time and effort will be re	quired to implement this action?	
	1 = Significant Time/Effort	2 = Moderate Time/Effort	3 = Little Time/Effort
COMMITMENT	How enthusiastic will the school cor	mmunity be about implementing this	s action?
	1 = Not Enthusiastic	2 = Moderately Enthusiastic	3 = Highly Enthusiastic
	How difficult will it be to achieve thi	is action?	
ACHIEVABILIT	1 = Very Difficult	2 = Moderately Difficult	3 = Not Difficult

SAMPLE:

POTENTIAL STRATEGIES	Impact on Student Achievement	Cost	Time	Commitment	Achievability	Total Points	Strategy Selection
Implement Daily PE	3	1	1	1	1	7	2
Implement AS:BC	3	3	2	1	3	12	1

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APPENDIX II – SCORING INDEX WORKSHEET

STRATEGY SCORING INDEX TEMPLATE

AREA #:(TITLE)							Ranking
Element #: (TITLE)			Area of Foci	SL			
POTENTIAL STRATEGIES	Impact on Student Achievement	Cost	Time	Commitment	Achievability	Total Points	Strategy Selection
AREA #: (тпце)					1		Banking
Element #: (TITLE)			Area of Foci	SL			
POTENTIAL STRATEGIES	Impact on Student Achievement	Cost	Time	Commitment	Achievability	Total Points	Strategy Selection

APPENDIX III – ASSESSMENT TOOL SUMMARY TEMPLATE

ASSESSMENT TOOL SUMMARY (P. 11-25)

As you transfer data (Percentage Level of Attention) from the Assessment Tool Areas into the table below, you gain a clear picture of your schools strengths and areas for improvement. Tracking this data over time will allow you to celebrate and share successes, as well as evaluate the effectiveness of the strategies you have employed to address areas for improvement.

ASSESSMENT TOOL SUMMARY	YEAR #	YEAR #	YEAR #	YEAR #
AREA #1 Teaching and Learning				
Element #1 – Health and Career/Planning #10				
Element #2 – Physical Education				
AREA #1 TOTAL				
AREA #2 School Environment				
Element #1 – School Policy				
Element #2 – School Connectedness				
Element #3 – Physical Environment				
Element #4 – Healthy Eating				
Element #5 – Tobacco Free Living				
Element #6 – Active Living				
AREA #2 TOTAL				
AREA #3: Partnerships				
Element #1 – Community Partnerships				
AREA #3 TOTAL				

ENDNOTES

- British Columbia Provincial Health Officer, An Ounce of Prevention 2003.
- II British Columbia Provincial Health Officer, An Ounce of Prevention 2003.
- III School connectedness or engagement refers to the degree of importance a youth places on doing well academically, learning new things, making friends, participating in extracurricular activities, getting involved with student council or similar groups and expressing their opinion in class (Improving the Health of Young Canadians, Canadian Institute for Health Information October 2005: Page 42).
- Ⅳ University of Minnesota Study in Improving the Odds: The Untapped Power of Schools to Improve the Health of Teens (2005).
- V Canadian Tobacco Use Monitoring Survey 2004
- VI Canadian Tobacco Use Monitoring Survey 2000
- VII Provincial Health Officer, 2006
- VIII Improving the Health of Young Canadians, Canadian Institute for Health Information October 2005: Page 42.
- X Investing in Partnerships with Health. Janine Phillips, Health Promoting Schools Coordinator, Centre for Health Promotion Government of South Australia Children, Youth and Women's health Service (2006).
- X Adopted from Centers for Disease Control and Prevention. School Health Index: A Self-Assessment and Planning Guide. Incorporating elements from both Elementary and Middle/High school versions. Atlanta, Georgia (2004).

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Appendix 6: Sample Municipal Administration Questionnaire

The Community Healthy Living Index (CHLI) is a set of five community assessment tools that was developed by the YMCA in the USA, along with experts from major US universities, and funded by the Centers for Disease Control and Prevention.⁴⁶ The CHLI aids in measuring opportunities for physical activity and healthy eating in the community, and it is meant to facilitate discussion about how to improve the community environment. The five areas of assessment are:

- General practices in support of healthy living
- Community design in support of healthy living
- Physical environment related to physical activity
- Physical environment related to food/nutrition
- Public transportation in support of healthy living

Such an assessment tool may be used by BC Health Authorities to survey the communities in their regions and to develop an overall picture of the health environment.

⁴⁶ Available at http://www.ymca.net/downloads/CHLI_27_Comm_Assess.pdf.

Community-at-Large Assessment

YMCA association number:	Assessment date:/						
Name of YMCA convening association/community assessment team: $_$							
CHLI point person:							
Names and titles of assessment team members conducting Community-at-Large Assessment:							

I. General Information

Note: Community is roughly defined as the area within a 10-mile radius or a 20-minute drive from a central location. Generally speaking, communities are typically made up of many neighborhoods, schools, libraries, shopping destinations, parks, recreational facilities, and other community destinations.

- 1. Name of community (provide best description): _____
- **2.** Location of community:
 - 2.a. Zip code(s): _____
 - 2.b. County (or counties): _____
- **3.** Community setting (check the best description):

□ Urban □ Suburban □ Rural

Rough definitions of urban, suburban, and rural settings are below. Recognize that these are only general guidelines, and each situation may be unique.

- Urban: an area that has an assortment of shopping destinations, a school, a place of worship, parks or recreational facilities, or other community destinations less than or equal to a half mile or a 10-minute walk from most homes
- Suburban: an area that has an assortment of shopping destinations, a school, a place of worship, parks or recreational facilities, or other community destinations approximately one mile or a 20-minute walk from most homes

- Rural: an area that has an assortment of shopping destinations, a school, a place of worship, parks or recreational facilities, or other community destinations at least two miles or a 40-minute or longer walk from most homes
- **4.** Size of community:
 - 4.a. *Approximate number of people who reside in the community (population):
 - 4.b. Approximate size of the area (please answer in the unit (e.g., mile or acre) that best describes your community):
 - In square miles: ______
 - In acres: _____
 - 4.c. If you wish to provide the name of the streets that could mark the boundaries of your community, please do so here:
 - North boundary: ______
 - South boundary: ______
 - East boundary: ______
 - West boundary: _____

4.d. If there is another way to better describe the area that defines your community, please do so here:

5. Household income level of the majority of people in the community (check the best description):

Low income Lower-middle income Middle income Upper-middle income High income

6. *Median household income (half the incomes are above this number and half are below) of the community (check the best estimated category):

□ < \$25,000 □ \$25,000-\$40,000 □ \$40,001-\$60,000 □ \$60,001-\$75,000 □ > \$75,000

7. *Approximate percentage of adults in the community who completed high school:

□ < 50% □ 50%-65% □ 66%-80% □ 81%-95% □ > 95%

8. *Approximate percentage of people in the community living below the poverty level (check the best estimated category):

□ < 5% □ 5%-20% □ 21%-35% □ 36%-50% □ > 50%

Approximate percentage of adults in the community who are employed (check the best estimated category):
 □ < 50%
 □ 50%-65%
 □ 66%-80%
 □ 81%-95%
 □ > 95%

10. *Ethnic makeup of the community residents (provide an approximate percentage for each category to add up to 100 percent). Note that the federal government considers race and Hispanic origin to be two distinct concepts. This question asks only about Hispanic origin. The following question asks about race.

_____% Spanish, Hispanic, or Latino (of any race)

- _____% Not Spanish, Hispanic, or Latino (of any race)
- **11.** *Racial makeup of community residents (provide an approximate percentage for each category to add up to 100 percent):
 - ____% White
 - _____% Black or African-American
 - _____% American Indian and Alaska Native
 - _____% Asian
 - _____% Native Hawaiian and Other Pacific Islander
 - _____% Some other race
 - _____% Two or more races

*Much of this information is available from the U.S. Census Bureau through the online tool American FactFinder (http://factfinder.census.gov).

II. Programs, Physical Environment, Promotion, and Policy

The CHLI assessment process is not a measure of success or failure but rather an important part of developing a plan for improvement in your community. Please be candid and accurate as you answer the questions below.

A. GENERAL PRACTICIES IN SUPPORT OF HEALT	HY LIVING			
 The community has a partnership, coalition, or advisory board (led by a municipal or county department, not-for-profit organization, etc.) on physical activity and healthy eating. 	☐ Yes, for both physical activity and healthy eating	☐ Yes, physical activity only	☐ Yes, healthy eating only	□ No
If you chose any of the Yes responses in question 1, answer questions 1.a–1.e.24. If you chose No, skip to question 2. The partnership, coalition, or advisory board does the following:				
1.a. Works to increase access to opportunities for healthy living	□ Yes		□ In development	□ No
1.b. Promotes policies to increase healthy living opportunities	□ Yes		□ In development	□ No
1.c. Develops and implements action plans to increase opportunities for healthy living	□ Yes		□ In development	□ No
1.d. Works across multiple agencies and organizations	□ Yes		□ In development	□ No
1.e. Includes representatives from the following professions/areas of expertise (i.e., at least one person from that discipline attends most meetings):				
1.e.1. Public health department	□ Yes		□ In development	□ No
1.e.2. Health care system (e.g., insurers, hospitals, clinics, doctor's or practitioner's offices)	□ Yes		□ In development	□ No
1.e.3. Nutrition experts (e.g., dieticians, nutritionists, school nutrition directors)	□ Yes		□ In development	□ No
1.e.4. Other medical experts <i>(e.g., dentists, physicians, nurses)</i>	□ Yes		□ In development	□ No
1.e.5. Health volunteers (e.g., American Hospital Association, American Diabetes Association, American Cancer Society)	□ Yes		□ In development	□ No

A. GENERAL PRACTICIES IN SUPPORT OF HEAL	THY LIVING (contin	ued)	
1.e.6. Planning (e.g., city, regional, or rural planning authority; smart-growth or land-use experts: etc.)	□ Yes	In development	□ No
1.e.7. Transportation department or group	□	In	□
	Yes	development	No
1.e.8. Parks and recreation department	□	In	□
	Yes	development	No
1.e.9. Health and wellness centers <i>(e.g., YMCAs)</i>	□	In	□
	Yes	development	No
1.e.10. Universities or colleges	□	In	□
	Yes	development	No
1.e.11. Local government <i>(e.g., policy makers, city council)</i>	Yes	In development	□ No
1.e.12. School officials	Yes	In development	□ No
1.e.13. Business leaders	□	In	□
	Yes	development	No
1.e.14. Faith communities	□	In	□
	Yes	development	No
1.e.15. Local media	□	In	□
	Yes	development	No
1.e.16. Land developers	□	In	□
	Yes	development	No
1.e.17. Law enforcement	Yes	In development	□ No
1.e.18. Housing or real estate	□	In	□
	Yes	development	No
1.e.19. Not-for-profit advocacy, anti-hunger organizations, or activity groups (e.g., food banks, advocates for pedestrian and bike trails, Sierra Club chapters, gardening groups)	Yes	In development	□ No
1.e.20. Community activists or non-agency-	Yes	In	□
affiliated volunteers/citizens		development	No

A. GENERAL PRACTICIES IN SUPPORT OF HEALT	HY LIVING (co	ntinued)			
1.e.21. Cooperative extension	□ Yes		□ In development		□ No
1.e.22. Food policy council	□ Yes		□ In development		□ No
1.e.23. Farmers markets or farmers	□ Yes		□ In development		□ No
1.e.24. Organizations representing individuals at high risk for chronic disease or disadvantaged groups (e.g., racial or ethnic minorities, people with disabilities, older adults)	□ Yes		□ In development		□ No
2. Programs and activities (e.g., walking, biking, or other physical activity events, networks, or groups) that support physical activity are offered in neighborhood venues throughout the community.	☐ Yes, everywhere/ almost everywhere 81%–100%	☐ Yes, usually 61%–80%	☐ Yes, about half the neighborhoods 41%-60%	☐ Yes, some neighborhoods 21%-40%	□ No, rarely/ nowhere 0%–20%
If you chose any of the Yes responses in question 2, answer questions 2.a and 2.b. If you chose No, rarely/nowhere, skip to question 3. 2.a. A wide variety of venues in the community organize, promote, or provide space for physical activity programming in the community. (These venues might include churches/faith-based community centers, schools, child care centers, hospitals or health care facilities, health/wellness/recreation centers, and local parks.)	Six or more venues	☐ Four to five venues	Two to three venues	☐ One venue	D No venues
2.b. Physical activity programs/activities in the community make provisions (e.g., scholarships, financial aid) for people with limited resources (e.g., low-income families, children and/or older adults, people with disabilities) to gain access.	□ Always/ almost always 81%–100%	□ Usually 61%–80%	□ About half the time 41%–60%	□ Sometimes 21%–40%	□ Rarely/ never 0%–20%
3. Programs and activities that support healthy eating (e.g., healthy cooking clubs, educational gardens, farmers markets, agricultural programs such as Farm to School) are offered in neighborhood venues throughout the community.	☐ Yes, everywhere/ almost everywhere 81%–100%	☐ Yes, usually 61%–80%	☐ Yes, about half the neighborhoods 41%–60%	☐ Yes, some neighborhoods 21%-40%	□ No, rarely/ never 0%–20%

A. GENERAL PRACTICIES IN SUPPORT OF HEALTHY LIVING (continued)							
If you chose any of the Yes responses in							
question 3, answer questions 3.a and 3.b. If you	Six or more	Four to five	Two to three	One venue	No		
chose No, rarely/never, skip to question 4.	venues	venues	venues		venues		
3.a. A wide variety of community venues organize, promote, or provide space for healthy eating programs/activities in the community. (<i>These</i> venues might include churches/faith-based community centers, schools, child care centers, hospitals or health care facilities, health/wellness/recreation centers, local parks, restaurants, and grocery stores.)							
3.b. Community healthy eating programs and							
activities make provisions (e.g., scholarships, financial aid) for people with limited resources (e.g., low-income families, children and/or older adults, people with disabilities) to gain access.	Always/ almost always 81%–100%	Usually 61%–80%	About half the time 41%–60%	Sometimes 21%–40%	Rarely/ never 0%–20%		
4. Community-wide promotions or communication							
efforts encourage healthy living <i>(i.e., physical activity and healthy eating)</i> through promotional materials, educational events, and/or an inventory of opportunities for physical activity and healthy eating.	Always/ almost always 81%–100%	Usually 61%–80%	About half the time 41%–60%	Sometimes 21%–40%	Rarely/ never 0%–20%		
5. The community has conducted a community							
audit (e.g., walkability audit) to assess the current environment for walking, biking, and public transportation.	Yes		In development		No		
6. The community has conducted a community audit							
to assess the current environment for healthy food and eating.	Yes		In development		No		
7. Federal food assistance program resources (e.g.,							
Food Stamp Program; School Breakfast Program;	Yes,	Yes,	Yes, about	Yes, some	No, rarely/		
National School Lunch Program: Child and Adult	everywhere/	usually	half the	neighborhoods	nowhere		
<i>Care Food Program; Women, Inlants, and Children</i>	aimost	01%-80%	11%_60%	21%-40%	0%–20%		
to ensure food security.	81%-100%		41/0-00/0				
If you chose any of the Vas responses in							
auestion 7, answer question 7 a If you chose			L About half the	L Sometimes	Barelv/		
No. rarely/nowhere skip to question 8.	almost alwave	61%-80%		21%-40%	naieiy/ ne\/er		
7.a. Community residents who are eligible for federal food assistance programs are using them.	81%–100%	0170-0070	41%–60%		0%–20%		
8. The community and/or local government has written guidelines or rules or policies that support the following:							
8.a. A partnership, coalition, or advisory board to address physical activity	□ Yes		□ In		□ No		
			development				
8.b. A partnership, coalition, or advisory board to							
address healthy eating	Yes		In		No		
	[[development	[

A. GENERAL PRACTICIES IN SUPPORT OF HEAL	THY LIVING (co	ntinued)			
8.c. Multiple/regular community education and promotion activities and programs in support of physical activity	□ Yes		□ In development		□ No
8.d. Multiple/regular community education and promotion activities and programs in support of healthy eating	□ Yes		□ In development		□ No
9. The community has funds to support the following:					
9.a. A partnership, coalition, or advisory board to address physical activity or healthy eating	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%
9.b. Multiple/regular community education and promotion activities/programs in support of physical activity	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%
9.c. Multiple/regular community education and promotion activities/programs in support of healthy eating	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%
9.d. Farmers markets and community gardens	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%
 10. The community and/or local government has dedicated full- or part-time staff who are responsible for suggesting and overseeing improvements to make healthy living opportunities more available. (These improvements might include providing and/or increasing bike racks; installing and/or repairing sidewalks and bike lanes; building or enhancing park trails or shared trails/paths/greenways; and increasing availability and accessibility of healthy food and beverages through community stores, new grocery stores, gardens, and farmers markets.) 	Yes		In development		No
11. In the past five years, the community has raised funds (e.g., passed bonds, allocated funds) to finance the building or enhancement of the following:					
11.a. Public-use exercise facilities (e.g., shared- use paths or trails)	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%

A. GENERAL PRACTICIES IN SUPPORT OF HEALTHY LIVING (continued)							
11.b. Pedestrian and/or bicycle enhancements (e.g., sidewalks, crosswalks, bike lanes)	Covers all/ most costs 81%–100%	Usually covers costs 61%–80%	Covers half the costs 41%–60%	Covers some costs 21%-40%	□ Rarely/ never covers costs 0%–20%		
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	Low	□ Very low		
B. COMMUNITY DESIGN IN SUPPORT OF HEALTH	HY LIVING						
 The community is redeveloping existing roads to accommodate walking and bicycling. 	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%		
2. Walking routes (e.g., sidewalks and trails) and biking routes in the community are accessible to people with disabilities and are in compliance with Americans with Disabilities Act (ADA) requirements in the following ways:*							
2.a. Routes are mostly flat with no large dips or inclines.	□ Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%–60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%		
2.b. Routes are smooth with no large level changes, breaks, or gaps.	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%		
2.c. There are smooth transitions <i>(e.g., curb cuts or ramps)</i> from the routes to the streets.	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%		
2.d. Routes are free of major impassable features <i>(e.g., mailboxes, light poles, or trees)</i> .	□ Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%		
3. New developments (e.g., housing, subdivisions, commercial) and street infrastructure enhancements include sidewalks, bike lanes, and recreational and/or usable open spaces.	□ Always/almost always 81%-100%	□ Usually 61%–80%	About half the time 41%–60%	□ Sometimes 21%–40%	□ Rarely/ never 0%–20%		
4. Zoning regulations support mixed land use (i.e., mixing of residential and commercial land uses in the same area).	□ Yes		In development		□ No		

* Questions in this assessment do not cover all issues of design, the physical environment, and accessibility. Additional information is available from the Access Board, an independent federal agency devoted to accessibility for people with disabilities. The board provides technical assistance and training on accessible design. Especially helpful is Accessible Rights-of-Way: A Design Guide, which is available through the Access Board's Web site. For more information, visit www.access-board.gov or call their technical assistance line at 800-872-2253.

B. COMMUNITY DESIGN IN SUPPORT OF HEALTH	HY LIVING (con	tinued)			
5. School sites have walking and biking infrastructure so the majority of students can walk and/or bike to school.	□ Always/almost always 81%–100%	□ Usually 61%–80%	☐ About half the time 41%–60%	□ Sometimes 21%–40%	□ Rarely/ never 0%–20%
6. Steps are being taken to correct hazards or improve conditions around major barriers (e.g., freeways, railroad lines, rivers) that make it hard to safely walk or bike from place to place in the community.	☐ Always/almost always 81%–100%	Usually 61%–80%	☐ About half the time 41%–60%	□ Sometimes 21%–40%	□ Rarely/ never 0%–20%
7. Food stores and restaurants in the community that offer healthy foods and menu options (e.g., fresh produce, whole grain products, nonfat and low-fat dairy products, moderate portions, shared entrées) are easily accessible by foot, bike, and/or public transportation. Note: Food stores are stores that predominantly sell food, including grocery stores, supermarkets, ethnic and specialized markets, some corner stores, and some convenience stores.	□ Everywhere/ almost everywhere 81–100%	Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%–40%	☐ Rarely/ nowhere 0%–20%
8. The community and/or local government has written guidelines or rules or policies related to the following:					
8.a. Safe walking and biking routes/networks, including Safe Routes to School (SRTS)	□ Yes		□ In development		□ No
8.b. Requirements for new developments to support physical activity (e.g., through a comprehensive land-use plan, master plan, park and/or recreation plan, or non-motorized transportation plan that directly addresses increasing opportunities for physical activity)	☐ Yes		□ In development		□ No
8.c. Requirements or incentives to enhance access to healthy foods (e.g., policies regarding the location of restaurants and grocery stores, space for farmers markets and community gardens, incentives for stores to locate in neighborhoods)	□ Yes		□ In development		□ No
8.d. Use of land (<i>such as through a</i> <i>comprehensive land-use plan</i>) that supports increased opportunities for physical activity	□ Yes		□ In development		□ No
9. The community has funding to support the following:					
9.a. Safe walking and biking routes/networks (including Safe Routes to School) in the community	Covers all/ most costs 81%–100%	Usually covers costs 61%–80%	□ Covers half the costs 41%–60%	Covers some costs 21%-40%	□ Rarely/ never covers costs 0%–20%

B. COMMUNITY DESIGN IN SUPPORT OF HEALTHY LIVING (continued)							
9.b. New building developments that encourage							
physical activity in the community	Covers all/	Usually	Covers half	Covers some	Rarely/		
	most costs	covers	the costs	costs	never		
	81%–100%	costs	41%–60%	21%–40%	covers		
		61%–80%			costs		
	_				0%-20%		
9.c. Enhancing access to resources that							
provide fielding roods (e.g., grocery stores,		COVERS	the costs		nareiy/		
gardens) in the community	81%-100%	costs	41%-60%	21%-40%	covers		
gen 2011) in 110 2011, 111, 111, 111, 111, 111, 111,		61%-80%			costs		
					0%–20%		
Rate your confidence in your answers for this							
section:	Very high	High	Medium	Low	Very low		
C. PHYSICAL ENVIRONMENT RELATED TO PHYSIC	AL ACTIVITY						
1. The community has a network of unobstructed,							
well-maintained, and level sidewalks and							
pathways, including in the downtown area and							
shopping centers, that allow the following:							
1.a. Walking							
	Everywhere/	Usually	About half the	Some	Rarely/		
	almost	61%-80%	neignbornoods	neignbornoods			
	81%-100%		4170-0070	21/0-40/0	0 /0-20 /0		
1 h Biking	Π						
	Everywhere/	Usually	About half the	Some	Rarely/		
	almost	61%-80%	neighborhoods	neighborhoods	nowhere		
	everywhere		41%-60%	21%-40%	0%–20%		
	81%–100%						
2. Public and/or private parks are available and							
convenient to people of all income levels in the	Everywhere/	Usually	About half the	Some	Rarely/		
community.	almost	61%-80%	neighborhoods	neighborhoods	nowhere		
	everywhere 81%–100%		41%-00%	21%-40%	0%-20%		
3. People who walk or bike in the community feel							
safe and unlikely to become victims of crime.	Everywhere/	Usually	About half the	Some	Rarely/		
	almost	61%-80%	neighborhoods	neighborhoods	nowhere		
	everywhere		41%-60%	21%-40%	0%–20%		
	81%–100%						
4. The community offers a variety of free or low-							
cost publicly available facilities/areas that allow							
opportunities for physical activity, such as:							
4.a. Swimming pools							
			I ADOUT DAIT THE	Some	I Harelv/		
	almost	61%_ 900/	noighborhooda	noiabhorhooda	nowhore		
	almost	61%-80%	neighborhoods 41%-60%	neighborhoods 21%-40%	nowhere		

C. PHYSICAL ENVIRONMENT RELATED TO PHYSICAL ACTIVITY (continued)						
4.b. Basketball courts	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.c. Baseball/softball fields	□ Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.d. Soccer/football/lacrosse fields	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%–60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.e. Tennis courts	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.f. Health/wellness/recreation centers (e.g., community centers, JCCs, YMCAs)	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%	
4.g. Golf courses	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.h. Facilities open for walkers during off-hours (e.g., shopping malls, local schools)	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.i. Playgrounds with play structures	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.j. Parks (e.g., nature, skateboard, pocket, pet, water, or garden parks)	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	
4.k. Water, snow, and ice sport areas (e.g., ski slopes, bathing arenas, ice rinks)	L Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	

C. PHYSICAL ENVIRONMENT RELATED TO PHYSICAL ACTIVITY (continued)								
5. The majority of these publicly available facilities/ areas (listed in 4.a– 4.k) are fully utilized by residents of all income levels in the community.	□ Always/almost always 81%–100%	□ Usually 61%–80%	□ About half the time 41%–60%	□ Sometimes 21%–40%	□ Rarely/ never 0%–20%			
6. The majority of these publicly available facilities/ areas (listed in 4.a–4.k) are open throughout the year.	All/almost all of the year 10–12 months	□ Most of the year 7–9 months	About half the year 5–6 months	□ Some of the year 2–4 months	Rarely/ less than 2 months a year			
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	□ Low	□ Very low			

D. PHYSICAL ENVIRONMENT RELATED 1	O FOOD/NU	TRITION				
 Food stores in the community carry a variety of fresh vegetables and fruits of acceptable quality. Note: Food stores are stores that predominantly sell food, including grocery stores, supermarkets, ethnic and specialized markets, some corner stores, and some convenience stores. 	□ Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41% - 60%	□ Some neighborhoods 21% - 40%	☐ Rarely/ nowhere 0%–20%	N/A (No food stores)
2. In addition to local food stores and supermarkets, vegetables and fruits are available from alternative sources in the community, such as farmers markets, roadside vegetable and fruit stands, farm stands, and community gardens.	☐ Yes, everywhere/ almost everywhere 81% - 100%	☐ Yes, usually 61% - 80%	☐ Yes, about half the neighborhoods 41% - 60%	☐ Yes, some neighborhoods 21% - 40%	□ No, rarely/ nowhere 0%–20%	
If you chose any of the Yes responses in question 2, answer question 2.a. If you chose No, rarely/nowhere, skip to question 3. 2.a. Vegetables and fruits from alternative sources are available at comparable prices.	□ Everywhere/ almost everywhere 81%–100%	Usually 61%–80%	□ About half the neighborhoods 41%–60%	□ Some neighborhoods 21%–40%	☐ Rarely/ nowhere 0%–20%	
3. Low-fat products (e.g., <i>low-fat milk or lean meats</i>) are readily available in local food stores and supermarkets in the community.	Everywhere/ almost everywhere 81%-100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%	N/A (No food stores in the community)
 Whole-grain products are readily available in local food stores and supermarkets in the community. Note: Check the ingredients list to determine if a product contains whole grains. One easy way of identifying whole grains is to look for the word <i>whole</i>, as in <i>whole wheat</i> or <i>whole oats</i>. In contrast, common examples of ingredients that are not definite whole-grain options may include wheat flour or enriched flour. 	□ Everywhere/ almost everywhere 81%–100%	Usually 61%–80%	About half the neighborhoods 41%–60%	□ Some neighborhoods 21%–40%	□ Rarely/ nowhere 0%–20%	N/A (No food stores in the community)

D. PHYSICAL ENVIRONMENT RELATED TO FOOD/NUTRITION (continued)							
5. Local food stores and supermarkets promote healthy eating by providing price incentives (e.g., coupons, low-price promotions) for healthy foods and drinks (e.g., vegetables, fruits, water, low-fat milk), and/or using promotional displays and signage to promote healthy foods.	Everywhere/ almost everywhere 81%–100%	Usually 61%–80%	About half the neighborhoods 41%-60%	Some neighborhoods 21%-40%	Rarely/ nowhere 0%–20%	N/A (No food stores in the community)	
 Restaurants in the community promote healthy eating by providing nutrition information on the menu, identifying healthy menu options, serving moderate portions, and/or highlighting healthy foods. 	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	☐ Rarely/ nowhere 0%–20%	N/A (No restaurants in the community)	
7. Public facilities in the community (e.g., schools, parks, libraries) have functioning water fountains that are overseen by city or local government to ensure their upkeep and the safety of the water supply.	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%–60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	N/A (No public facilities in the community)	
8. If vending/concessions are available at community parks, predominantly healthy food and beverage options are provided.	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	N/A (No vending/ concessions at community parks)	
9. Community parks offer on-site gardens and/or farmers markets.	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%–60%	□ Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%	N/A (No community parks)	
10. The community and/or local government has written guidelines or rules or policies related to the following areas:							
10.a. Easy access to healthy foods (e.g., vegetables, fruits, low-fat products, whole-grain products)	□ Yes		□ In development		□ No		
10.b. Offering support for agricultural programs for healthy eating (e.g., farmers markets, community gardens, Farm to School programs)	□ Yes		□ In development		□ No		
10.c. Encouraging restaurants to provide nutrition labeling and moderate portions	□ Yes		□ In development		□ No		
10.d. Ensuring that healthy food and beverages are the predominant options served and vended at government sites, libraries, parks, and recreation centers	□ Yes		□ In development		□ No		
10.e. Providing space for farmers markets and community gardens	□ Yes		□ In development		□ No		

D. PHYSICAL ENVIRONMENT RELATED 1	O FOOD/NU	TRITION (co	ntinued)			
 f. Ensuring that predominantly healthy foods and beverages are served at government meetings, events, and conferences 	□ Yes		□ In development		□ No	
11. The community has funding to provide direct material support for the following:						
11.a.Increased availability of and access to healthy foods (e.g., vegetables, fruits, low-fat products, whole-grain products)	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%	
11.b. Agricultural programs for healthy eating <i>(e.g., Farm to School</i> <i>programs)</i>	☐ Yes, covers all/most costs 81%–100%	□ Yes, usually covers costs 61%-80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%	
11.c. Campaigns promoting healthy eating and nutrition	☐ Yes, covers all/most costs 81%–100%	□ Yes, usually covers costs 61%-80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%	
11.d. Food programs for low-income children in schools and before- and afterschool settings	☐ Yes, covers all/most costs 81%–100%	□ Yes, usually covers costs 61%-80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%	
11.e. Low-cost or free vegetable and fruit snack programs in schools and before- and afterschool settings	☐ Yes, covers all/most costs 81%–100%	□ Yes, usually covers costs 61%-80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%	
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	Low	U Very low	

E. PUBLIC TRANSPORTATION IN SUPPORT OF HEALTHY LIVING								
1. The community has a public transportation system (e.g., buses, rail system) that provides access to major employers, medical facilities, schools, physical activity/recreation facilities, and retail areas, including stores/resources for healthy food. (For a small town, this could consist of programs such as Dial-a-Ride or a medical transportation system.)	☐ Yes, everywhere/ almost everywhere 81%–100%	☐ Yes, usually 61%–80%	☐ Yes, about half the neighborhoods 41%–60%	☐ Yes, some neighborhoods 21%-40%	□ No, rarely/ nowhere 0%–20%			

E. PUBLIC TRANSPORTATION IN SUPPORT OF HEALTHY LIVING (continued)							
If you chose any of the Yes responses in question 1, answer questions 1.a and 1.b. If you chose No, rarely/nowhere, skip to question 2. 1.a. The community's public transportation system serves all areas of the community with sufficient frequency to make it a realistic option for regular commuting to work and local destinations.	L Everywhere/ almost everywhere 81%–100%	Usually 61%–80%	D About half the neighborhoods 41%-60%	Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%		
1.b. To facilitate public transportation use, public transportation stops can be reached easily by walking or biking and/or from park-and-ride lots.	Everywhere/ almost everywhere 81%–100%	□ Usually 61%–80%	About half the neighborhoods 41%-60%	Some neighborhoods 21%-40%	□ Rarely/ nowhere 0%–20%		
2. One or more local groups in the community work with transportation officials to improve public transit options (<i>e.g., public transportation, walking,</i> <i>biking</i>) to physical activity/recreation facilities, supermarkets, farmers markets, community gardens, or other food outlets.	□ Yes		□ In development		□ No		
3. The community and/or local government has written guidelines or rules or policies related to the following:							
3.a. A public transportation system <i>(e.g., buses, rail system)</i>	□ Yes		□ In development		□ No		
3.b. Transportation programs to improve access to physical activity/recreation facilities, supermarkets, farmers markets, and community gardens	□ Yes		In development		□ No		
4. The community and/or local government has funding for the following:							
4.a. A public transportation system <i>(e.g., buses, rail system)</i>	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%–40%	□ No, rarely/ never covers costs 0%–20%		
4.b. Transportation programs to improve access to physical activity/recreation facilities, supermarkets, farmers markets, and community gardens	☐ Yes, covers all/most costs 81%–100%	☐ Yes, usually covers costs 61%–80%	☐ Yes, covers half the costs 41%–60%	☐ Yes, covers some costs 21%-40%	□ No, rarely/ never covers costs 0%–20%		
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	□ Low	□ Very low		

F. PRIMARY HEALTH CARE PROVIDERS/INSURER	S				
 Primary health care providers in the community define and treat obesity as a disease and include appropriate counseling in medical care, including referrals for nutrition services and exercise physiologists as needed. 	□ All/almost all 81%–100%	□ Most 61%–80%	□ About half 41%–60%	□ Some 21%–40%	□ Few to none 0%–20%
2. Primary health care providers support healthy lifestyles by assessing physical activity and dietary intake as part of a written checklist/screening and include regular physician communication/ counseling about the importance of these health behaviors during all office visits.	□ All/almost all 81%–100%	□ Most 61%–80%	☐ About half 41%–60%	□ Some 21%–40%	☐ Few to none 0%–20%
3. Primary health care providers maintain a comprehensive, continuous, and reliable system for monitoring patients' body mass index, lifestyle-related chronic diseases, nutrition, and physical activity behaviors.	□ All/almost all 81%–100%	□ Most 61%–80%	☐ About half 41%–60%	□ Some 21%-40%	□ Few to none 0%–20%
 Primary health care providers work with insurance companies to offer coverage for preventive services, including nutrition counseling and physical activity programming. 	□ All/almost all 81%–100%	□ Most 61%–80%	☐ About half 41%–60%	□ Some 21%–40%	Few to none 0%–20%
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	□ Low	□ Very low

G. LOCAL MEDIA					
1. Local media (e.g., newspapers, radio, and/or TV) cover stories, reports, and/or educational programs that support healthy living (e.g., physical activity, healthy eating, healthy weight, or initiatives at local schools or work sites to promote good health).	□ Daily	□ Weekly	□ Monthly	☐ A few times a year	□ Never
2. Healthy eating is presented in the local media in both content and advertising by using positive role models to encourage healthy choices.	□ Daily	□ Weekly	□ Monthly	□ A few times a year	□ Never
 Physical activity is presented in the local media in both content and advertising by using positive role models to encourage healthy choices. 	□ Daily	□ Weekly	□ Monthly	□ A few times a year	□ Never
Rate your confidence in your answers for this section:	□ Very high	□ High	□ Medium	□ Low	□ Very low

Appendix 7: The CAPTURE Project

The CAPTURE project is funded by the Canadian Partnership Against Cancer and based out of Simon Fraser University in Vancouver, British Columbia. The project aims to revolutionize chronic disease prevention by allowing practitioners and program managers to track 'real-world' evidence from programs to understand what is effective, what is not, and under what contexts. Project leaders cite a key piece of the knowledge translation cycle, termed 'action to data', as the focus of the project.

In essence CAPTURE wants to make program evaluation easy, accessible, and practical. It is largely web-based, with tools such as e-networking and a search engine in addition to tools that cover planning, evaluation, and dissemination. It is a resource that collects, shares, and supports the use of evidence added by practitioners from across the country. Through this collaborative effort the CAPTURE Project will deliver on its goal of improving upon chronic disease primary prevention investments.

The key features of CAPTURE include the following:

- Comprehensive Searching: Obtain a range of information relevant to your intervention like demographic data, policies, others doing similar work, summaries of interventions from sources like the Canadian Best Practices Portal and the CAPTURE platform.
- Program Planning and Implementation: Pull together information collected during your needs assessment and coordinate intervention implementation by assigning tasks or setting milestones with the added convenience of calendar and email reminders.
- Evaluation Planning: Auto generate logic model and choose evaluation questions and indicators. Develop your data collection forms based on recommended tools or upload your own questions.
- Data collection and Analysis: Take advantage of online data collection forms or print out your forms for offline administration. The platform will automatically produce summary tables and graphs and will allow you to export your data for offline analysis.
- Reflecting on Practice: Share tacit knowledge by responding to prompts about the challenges experienced in planning and implementing your intervention.
- E-networking: Connect with others working on similar projects and discuss practice issues with those you trust.
- Reporting: Produce MS Word documents from predefined, customizable templates. Download reports onto your desktop for further refinement and publish your results onto the CAPTURE platform.
- Learning: Optimize your CAPTURE experience and enhance your evaluation skills through online tips, demos, webinars and onsite training