A Review of Better Practices for The Prevention of Obesity and Overweight and The Maintenance of Healthy Weights

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PROVINCIAL Health Services AUTHORITY

Province-wide solutions. Better health.

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Foreword

The Provincial Health Services Authority (PHSA) recognizes that the prevention of chronic disease is central to its mission of improving the health of the BC population. This has been the impetus for establishing a strategic direction of Prevention, Promotion and Protection for the organization. Early priorities identified for this program are healthy weights and tobacco reduction as these areas have a large impact on the need for expensive specialty health services such as cancer, cardiac, renal and transplants provided by PHSA.

This report summarizes the formative steps PHSA has taken to define its role as part of the provincial collaborative effort to achieve healthier weights. These include a review of better practices, a rapid survey of healthy weights programs in the province, an analysis with recommendations for BC and the proceedings of the consultation forum held to identify potential roles for PHSA as a partner in addressing healthy weight issues.

We are grateful to those representatives from ministries, health authorities, agencies and various populations that came together in the consultation workshop to network, share ideas and promote alignment of initiatives for collaborative action. We are especially thankful for the insights expressed by these representatives concerning the potential contributions PHSA can make as a partner in action. We take pleasure in sharing this report with you and welcome your ongoing comments and suggestions concerning our role and contributions.

PHSA looks forward to the opportunity to work with all stakeholders in the province to develop and enhance interventions to achieve healthy weights. We recognize that planning for renewed healthy weights strategies in BC is at a critical juncture and that there has been limited evidence available to support specific approaches for preventing or reducing rates of overweight and obesity. We hope that this review on best practices goes towards closing the gap in our collective knowledge of experiences in tackling these risks to date. One clear message that has emerged from this review and that is supported by lessons from tobacco control programs is that we need to combine our strategies into comprehensive programs that address multiple facets of the environment. Hence, our aim will be to maximally assist our primary partners in the Ministry of Health and the regional health authorities and, through them, the various NGOs, community groupings and the private sector partners that are critical to achieve success.

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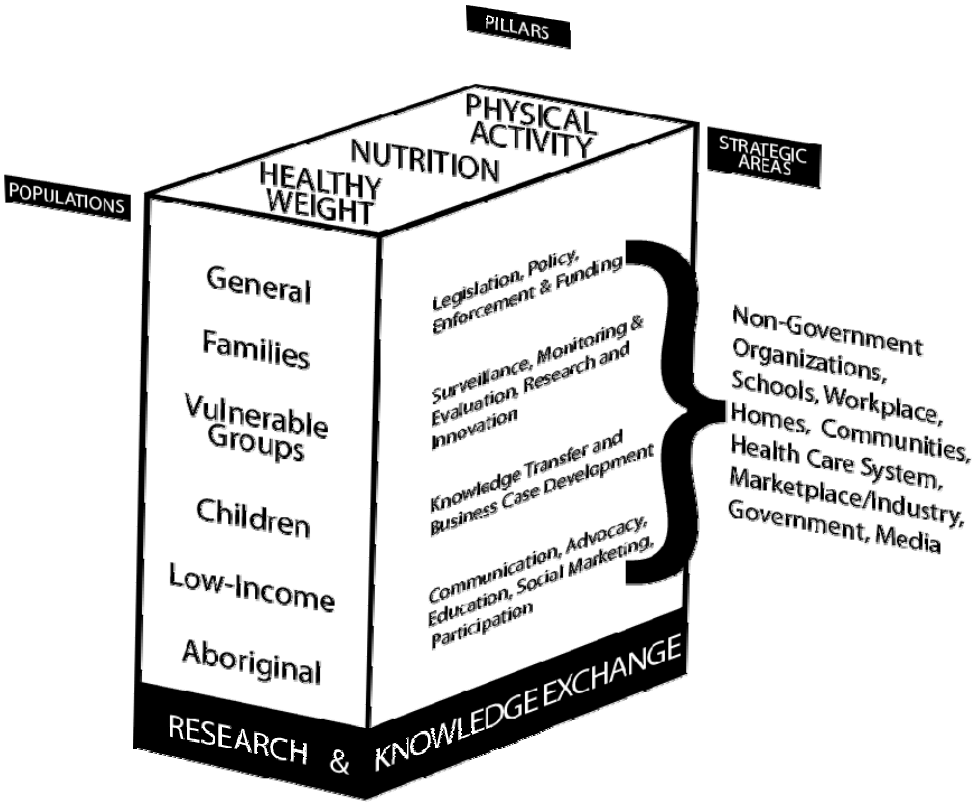
EXECUTIVE SUMMARY

Better practices

The Provincial Health Services Authority (PHSA) recognizes that the prevention of chronic disease is central to its mission of improving the health of the BC population. This has been the impetus for establishing a strategic direction of Prevention, Promotion and Protection for the organization. Early priorities identified for this program are healthy weights and tobacco reduction as these areas have a large impact on the need for expensive specialty health services provided by PHSA such as cancer, cardiac, renal and transplants.

This report summarizes the formative steps PHSA has taken to define its role as part of the provincial collaborative effort to achieve healthier weights. These include a review of better practices, a rapid survey of healthy weights programs in the province, an analysis with recommendations for BC and the proceedings of the consultation forum held to identify potential roles for PHSA as a partner in addressing healthy weight issues.

The following framework was developed to guide analysis of present healthy weights-related activities in BC, to help identify exemplary initiatives, and to reveal gaps and opportunities in the current environment.



This analytical framework rests on a foundation of research and knowledge exchange. The commitment to knowledge exchange recognizes the importance of application of research results and collaboration of researchers, practitioners and policy makers in informing on future research.

The framework also incorporates three pillars of population health for healthy weights. These pillars (physical activity, nutrition, healthy weight) provide the overarching principles guiding the framework. The strategies developed within this framework and targeted at the general population must also take into consideration vulnerable sub-populations, such as children, and low-income and ethno-cultural groups.

The framework includes a variety of strategic areas (e.g. legislation, surveillance, advocacy, etc.) and engages an array of organizations (e.g. NGOs, schools, workplaces, etc.) capable of designing and delivering interventions targeting all populations along the continuum of care, from primary prevention to treatment.

A systematic review of reviews and summary documents was conducted to determine the "better practices" toward increased physical activity and healthy eating that result in healthy body weights. The review involved a search of academic and grey literature produced within the last ten years, and was focused on identifying better practices in the areas of policy, clinical intervention, and along the continuum of care from primary prevention to treatment.

From this review, the following key themes were identified:

- More data is required on all aspects of healthy weight strategies to facilitate the best possible decisions. Policy and program developers and implementers should therefore strive to incorporate evaluation components into all interventions.
- Long-term interventions with repeated exposures are more likely to achieve a lasting effect.
- Coordinated, multi-component, multi-focal interventions have the greatest likelihood of success.

From the literature, it was further recognized that some strategies could be implemented with comparatively small investments for rapid return. Other strategies that require larger up-front investments, promise such high impact that they should be implemented sooner, rather than later.

Together, these strategies include:

- Designing school curriculum to emphasize reduced recreational television, computer and video game use by children;
- Targeting school curriculum to support reduced soft drink consumption by children;
- Developing point-of-decision prompts for physical activity, such as signs at elevators indicating the location of stairs and encouraging their use;
- Offering fiscal incentives to promote healthy lifestyles, such as pricing strategies favouring healthy foods;
- Incorporating evaluation components into all existing and new initiatives.

Four clinical interventions were also identified in the literature as being successful:

- meal replacements;
- teaching and training by exercise specialists and nurse practitioners;
- pharmacologic treatment with sibutramine or orlistat;
- surgery.

The prevailing sentiment in current healthy weights research is that, in addressing obesity, "A comprehensive solution must move beyond individual and family factors to address the environment at all levels, including the social, cultural, and economic factors that shape the larger environmental context in which families are nurturing their children."[1] This position is supported by findings acquired through the study of other population health challenges.

Environmental scan

In addition to the literature review, an environmental scan of healthy weights activities in British Columbia was conducted through a series of key informant interviews. Although not exhaustive, the scan enabled a preliminary comparison between current efforts in BC and the better practices identified by the literature review. The environmental scan suggests there is a vast amount of healthy weights activity in BC, although little is known about the evidence base for most of these interventions. Furthermore, there appears to be very limited coordination between these initiatives.

Recommendations

Recommendations for next steps based on the literature review and a preliminary gap analysis between better practices and healthy weights activities in BC are provided in six areas:

1. To enhance the effectiveness of strategies that address obesity/overweight, it will be necessary to further develop better practices in the area of healthy weights. Next steps could include:
   - Investing in demonstration projects for promising strategies;
   - Developing strategies for improving the exchange of knowledge between researchers and policy makers/practitioners;
   - Improving surveillance of obesity/overweight and its associated behavioural risk factors;
   - Implementing an effective evaluation component for existing and new healthy weights initiatives.

2. Next steps toward improving the efficiency and effectiveness of healthy weights activities in BC could include conducting a comprehensive environmental scan of regional healthy weights activities. Such a scan could:
   - Identify successful community-based initiatives that might serve as a model for other communities;
   - Help to identify unnecessary redundancies and gaps (underserved regions and populations);
   - Provide information for an accurate comparison of current practices versus better practices;
   - Provide information for the coordination and promotion of a province-wide healthy weights strategy.

   The evidence for the success of coordinated initiatives suggests that future research should also seek to determine ways in which organizations and communities might work together to coordinate their healthy weights efforts.

3. There is a need for stronger leadership and better coordination of activities related to healthy weights in BC in order to successfully address the problem of obesity/overweight. Based on the recommendations of the Healthy Weights Consultation Forum, PHSA is well positioned to fulfil this role. Next steps toward improving coordination of healthy weights efforts in BC could include:
   - Developing an overarching healthy weights strategy for the province;
   - Developing coalitions to strategically manage advocacy and planning;
   - Mapping healthy weights stakeholders and the roles they play within the province toward developing a more effective healthy weights community in BC.

4. School-based educational interventions alone are not sufficient for changing behaviours; multi-component, multi-focal strategies are more effective at producing results at the population level. Action Schools! BC stands out as a singular example of a relatively comprehensive initiative. However, the program is not ubiquitous; schools participate in the

program voluntarily. Furthermore, the program would produce better results if its interventions were tied to strategies targeting youth elsewhere in the community.

In the educational setting, next steps could include:

- Implementing the Action Schools! BC program in all schools province-wide;
- Introducing classroom curriculum to support a reduction of recreational video use (e.g. video games) among youth;
- Introducing classroom curriculum to support a reduction of soft drink consumption among youth;
- Coordinating the Action Schools! BC program with strategies for addressing the behaviours of children and youth outside the school setting (e.g. homes and recreation facilities).

5. Obesity disproportionately occurs in lower income groups. Food security programs and policies have been shown to be effective in reducing obesity/overweight in this population, by improving accessibility to healthier choices. Two next steps that could be carried out in tandem to ensure maximal effectiveness and reach of these programs would be:
   - Conducting an investigation to identify underserved low-income populations;
   - Engaging in a province-wide survey of organizations that coordinate and/or deliver programs targeting low-income British Columbians.

6. Obesity rates for aboriginal populations are alarming, and existing strategies have not been effective. Resources should be focused on working with aboriginal communities to develop new, more intensive, and/or longer-term interventions. Such interventions should include food security programs and policies that successfully promote healthy weights in lower income groups.

On November 30th, 2004, PHSA hosted a consultation with over 30 representatives from organizations throughout British Columbia to build consensus on a role for PHSA in the domain of healthy weights. The following five potential areas for action were identified as appropriate to the organization mission of PHSA:

- *Provide Strategic Vision and Leadership*
- *Education and Advocacy*
- *Surveillance and Evaluation*
- *Knowledge Brokering and Transfer*
- *Facilitation of collaboration for improved inter-organizational coordination*.

Conclusion

In conclusion, the evidence on better practices for healthy weight is developing and more research is needed to better understand the issue and solutions. While this information about better practices for healthy weights interventions is growing, the best available evidence should consistently guide future decisions made to improve and protect the health of British Columbians. There is currently a great deal of activity in healthy weights in BC, however much of it is being conducted with very limited communication and/or coordination amongst and between service providers and policy makers. Given that the most successful population health interventions have been the products of coordinated, comprehensive approaches, there is significant room for improvement. There is a role for PHSA to support the work addressing healthy weights. The recommendations of this report will inform future directions and actions for PHSA.

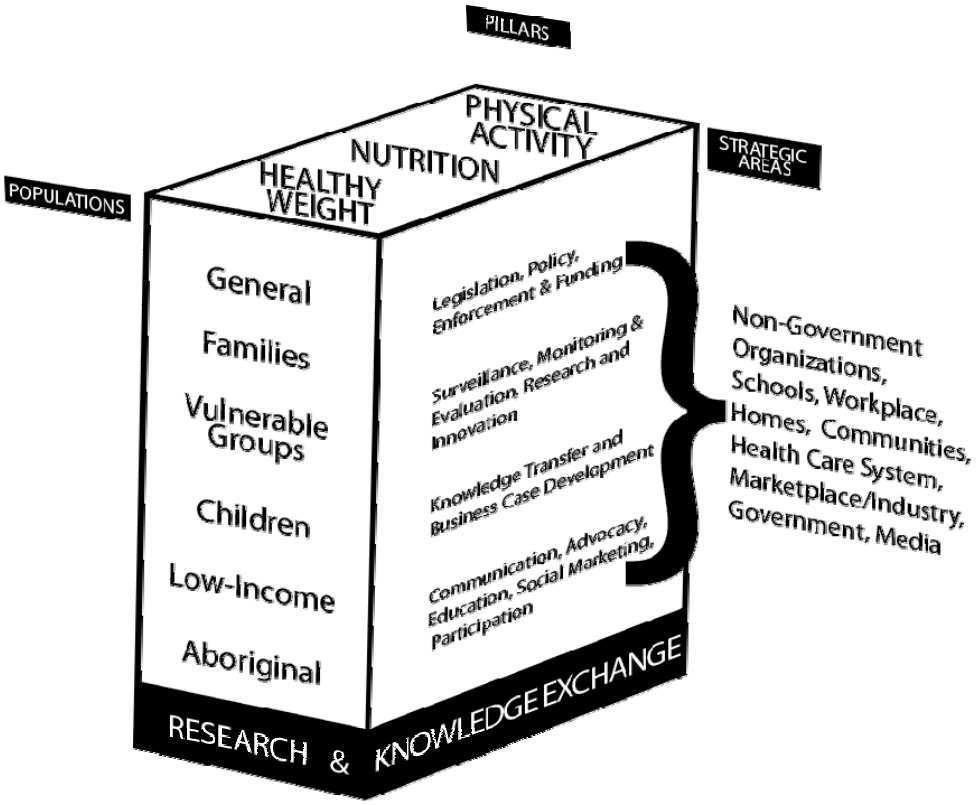
SECTION A: BETTER PRACTICES

OVERVIEW

In the autumn of 2004, the Provincial Health Services Authority (PHSA) contracted for a research report on healthy weights. The report was to include a literature review of better practices in healthy weights, an environmental scan of initiatives in BC related to healthy weights, and a proposed framework for the comparative analysis of these elements.

Research for the resulting report (*A Review of Better Practices for the Prevention of Obesity/Overweight and Maintenance of Healthy Weights*) was approached from a population health perspective, i.e. with consideration for: 1) the continuum of health from prevention to palliative care; 2) the social determinants of health; and 3) the intersectoral actions required (policy, practice and clinical).

The framework below was developed to guide analysis of present healthy weights-related activities in BC, to help identify exemplary initiatives, and to reveal gaps and opportunities in the current environment.



This analytical framework rests on a foundation of research and knowledge exchange. The commitment to knowledge exchange recognizes the importance of identifying research results suitable for ready application to policy, practice and clinical interventions, and the importance of the academic community drawing upon the wisdom and experience of practitioners and policy makers to inform the development of future research.

The framework also incorporates three pillars of population health for healthy weights. These pillars (physical activity, nutrition, healthy weight) provide the overarching principles guiding the framework. It should also be noted that strategies developed within this framework and targeted at the general population must also take into consideration vulnerable sub-populations, such as children, and low-income and ethnocultural groups. This reflects recognition that an effective strategy for the general population may not be effective for, and may in fact be harmful to these vulnerable groups.

The framework includes a variety of strategic areas (e.g. legislation, surveillance, advocacy, etc.) and engages an array of organizations (e.g. NGOs, schools, workplaces, etc.) capable of designing and delivering interventions targeting all populations along the continuum of care, from primary prevention to treatment.

In selecting "better practices" as the standard for consideration within this report, it is recognized that the level of evidence accepted and acted upon in population health does not necessarily need to satisfy the highest scientific criteria. This perspective acknowledges the limited data available on healthy weights interventions, and recognizes a role for common sense and practical utility, accepts that findings from studies of smaller groups can be useful for informing policies and practices intended for larger populations, and draws upon lessons learned from other population health challenges.

It is also recognized that the most successful population health interventions have been the products of coordinated, comprehensive approaches. It is expected the framework developed for this report will help support greater overall synergy in the area of healthy weights initiatives throughout BC, and contribute to improved results for healthy weight interventions across the care continuum.

METHODOLOGY

A list of key informants was compiled in consultation with PHSA, and through referrals from key informants. The key informants were provided with a description of the purpose of the literature review, and were asked to provide documents they thought should be included in the review, sources for such documents, and other key informants who should be contacted. Those having specific expertise in aboriginal health concerns were specifically asked for references related to healthy weights interventions targeting aboriginal youth. A total of 19 key informants provided resources, or links to resources used in the compilation of the better practices review. A list of key informants is included as Appendix A.

A qualified health librarian collaborated on the compilation of the list of relevant databases to be searched, and validated the list of search terms, which is included as Appendix B. Searches on Medline, CINAHL and Cochrane Review databases were conducted, yielding a total of 293 documents published since 1993. These titles were reviewed for relevancy, and whether the documents were "reviews of reviews". This culling process yielded 105 documents. An additional search for primary studies related to healthy weights and aboriginal youth (infants, children and adolescents in North America, Australia and New Zealand) was also executed, yielding 46 more documents. A review of the academic and grey literature was executed, including comparing the bibliographies of key documents against each other, and against the complete list of references. A short list of key documents as recommended readings is included as Appendix C.

BETTER PRACTICES REVIEW

Planning for healthy weights strategies in BC is at a critical juncture. Although there is limited evidence supporting specific strategies for preventing or reducing obesity/overweight, the problem has reached epidemic levels. We cannot idly wait for more research to direct us to "best" practices before taking action. Instead, we must use the best available evidence, in combination with expert opinion, to develop the most effective strategies possible. This approach entails the use of "better practices" as a means of moving forward more aggressively to address this pressing public health issue.

In the context of population health, better practices are defined as plausible, appropriate, evidence-based and well-executed actions and processes that will reduce the current and future burden of disease.[2] A recent US Institute of Medicine report on childhood obesity asserts, "…obesity is a serious public health problem calling for immediate reductions in the prevalence of obesity and in its health and social consequences… the committee strongly believes that actions should be based on the best *available* evidence – as opposed to waiting for the best *possible* evidence."[3] By adopting a better practices approach we are also following the lead of public health researchers who advocate the use of better practices where best practice evidence is too limited to be relevant or transferable.[4]

It must be noted that expert opinion is not always in agreement on what strategies are plausible as better practices for healthy weights interventions. One of the most important challenges in this respect is to develop consensus on what we mean by "evidence" and "plausible". Different disciplines and professions employ different understandings and approaches. A key to success for a better practices approach to healthy weights is developing a common language and framework.

For the current review, it was necessary for reasons of practicality to adopt better practice guidelines. As a result, the conclusions of this report should be viewed as preliminary, requiring further validation through consultation with experts, as recommended strategies will continue to be further refined and developed in the future.

The following review of better practices for preventing obesity/overweight and maintaining healthy weights is divided into strategies targeting the general population, and strategies targeting three vulnerable populations: low-income, children and aboriginals.

GENERAL POPULATION

The better practice strategies listed below should be considered in the context of an overall coordinated, comprehensive approach to healthy weights. Serving this point, special attention must be given to all relevant settings for each intervention. In most cases these settings are self-evident.

Strategy I: *Increased research and surveillance, improved knowledge exchange*

The obesity epidemic is a recent phenomenon characterized by significant challenges, such as the lack of a high quality evidence base to direct us to better practices, and a rapid, yet largely uncoordinated increase in research. There is general consensus that to advance the field of healthy weights and improve strategies that address obesity, it is necessary to invest more resources in:

- Research into promising new strategies and demonstration projects;
- Evaluation of current healthy weights initiatives in BC, to determine what is and is not working well;
- Improved exchange of knowledge from researchers to practitioners/policy makers, and from practitioners/policy makers to researchers, through coordinated information dissemination and opportunities for face-to-face information sharing;
- Improved surveillance of obesity and its associated behavioural risk factors.

The Society for Behavioural Medicine (SBM) is widely viewed as the most authoritative source for expert opinion on behavioural risk factor reduction strategies. The SBM Policy Committee is currently reviewing three bills proposed for the U.S. Senate addressing healthy weights issues, and recommends an evaluation strategy for all interventions, citing strong evidence that tying evaluation strategies to interventions improves their effectiveness.[5]

Relevant stakeholders for this strategy include NGOs, government, the health system and universities.

Strategy II: *Improved coordination of efforts*

Improved coordination of healthy weights efforts will not only assist in the development of better systems for the dissemination of new knowledge and lessons learned, it will also lead to the reduction of unnecessary redundancies, and create opportunities for increased synergy.

Next steps to improve the coordination of healthy weights efforts in BC include:

- developing coalitions to strategically manage advocacy and planning;[6]
- conducting a comprehensive, region-by-region inventory of healthy weights activities and gap analysis with regards to what we know about better practices;
- mapping healthy weights stakeholders and the roles they play within the province.[7]

Strategy III: *Comprehensive community-based programs*

Comprehensive community-based programs targeting obesity have had mixed results.[8] The 30-year “North Karelia project” in Finland has been successful in reducing some risk factors for cardiovascular disease, yet participants’ mean body mass index (BMI) ratings have continued to increase significantly over time.[9]

However, we have learned a key lesson from tobacco control with regards to comprehensive programs:

- individual-based or single-modality interventions are unlikely to exert a meaningful impact at the population level.[10]

A review of the outcomes of five comprehensive community-wide interventions suggests that, while long-term multi-focal interventions have produced mixed results in adult populations, this may be the best model for dealing with childhood obesity.[11]

Strategy IV: *Education and raising awareness*

Providing information is generally not enough to produce behaviour changes, but such strategies are integral parts of comprehensive programs. Unlike most curriculum-based interventions, two have shown to be effective at reducing youth's BMI and other measures of obesity on their own:

- Classroom curriculum to reduce children's recreational video time;[12]
- Classroom curriculum to children's consumption of soft drinks[13]

Point-of-decision prompts for physical activity (e.g. signs at elevators promoting the use of stairways and identifying their locations) have also been shown to be effective at inducing behaviour change.[14]

The following strategies have been shown to be somewhat effective, and it is expected that their effectiveness would be increased if they were effectively coordinated with other interventions:

- Point-of-decision nutritional information;[15]
- School curriculum focusing on improved nutrition and increased activity;[16]
- Media campaigns[17], with long-term efforts expected to have greater impact;[18]
- Pedometer programs;[19]
- Participatory learning.

Stakeholders typically responsible for the coordinated implementation of this strategy include schools, industry, government, media and NGOs.

Strategy V: *Commercial weight loss programs*

A two-year randomized clinical trial compared participants in a commercial weight loss program (Weight Watchers) with self-help attempts to lose weight. The program was more effective than brief counselling and self-help for overweight and obese adults.[20]

Strategy VI: *Primary care interventions*

The following strategies have proven effective for adults, when delivered in a primary care context:

- meal replacements;[21]
- teaching and training by exercise specialists and nurse practitioners.[22]
- pharmacologic treatment with sibutramine or orlistat;[23]
- surgery.[24]

There is mixed support for:

- counselling by primary care professionals.[25]

The evidence shows that high-intensity counseling combined with behavioural interventions can have a modest effect.[26]

Strategy VII: *Individually adapted health behaviour change programs*

Individually adapted health behaviour change programs tailored to a person's readiness for change, or specific interests, are considered highly effective for adults.[27] Such programs are designed to help participants incorporate physical activity into their daily routines by teaching them behavioural skills: goal-setting and self-monitoring, building social support, behavioural reinforcement through self-reward and positive self-talk, structured problem-solving, and relapse prevention.

These programs are effectively delivered through community-based channels, with support through the media.

Strategy VIII: *Social support interventions*

Social support interventions have been shown to have potential for high degrees of effectiveness in adult populations.[28] These interventions focus on changing physical activity levels through developing and maintaining supportive social relationships outside the family, such as "buddy systems", making a "contract" with others to achieve physical activity goals, or setting up groups for companionship and support while being physically active. The evidence suggests that careful design of the interventions is key – social support interventions work best when empirical and theoretical principles are followed.

Strategy IX: *Creation of, or enhanced access to places for physical activity*

Interventions to create, or enhance access to places for physical activity include:

- improving lighting on walking paths,
- improving sidewalks,
- creating bike lanes and routes,
- introducing parks, playgrounds and playing fields into neighbourhoods,
- improving the safety of parks, playgrounds and playing fields.

These types of interventions appear promising,[29] and evidence shows that coupling this strategy with informational outreach to raise awareness amongst potential users is highly effective.[30] Responsibility for successfully implementing this strategy resides in communities, industry/marketplace, government and NGOs.

Strategy X: *Comprehensive worksite health promotion*

Most evidence shows that comprehensive worksite health promotion strategies can be effective in combating obesity/overweight,[31] as well as providing economic advantages to the employer such as reduced absenteeism. Such programs can incorporate an array of interventions, including but not limited to:

- on-site exercise facilities,
- employee bicycle racks,
- showers and lockers for staff use,

- social support interventions,
- subsidies for gym memberships,
- cafeteria pricing strategies and menu policies to encourage healthy choices,
- educational programming to promote healthy lifestyles,
- reward programs for achieving weight loss or fitness goals.

Strategy XI: ***Marketing (pricing and advertising promotion)***

Marketing strategies, including cost incentives, advertising and product packaging have all been shown to be useful in preventing obesity/overweight and promoting healthy weights.

Media campaigns are effective at improving knowledge and influencing behaviours,[32] with long-term campaigns expected to have greater impact.[33] The ParticipAction campaign is a good example of a media campaign that was successful at raising awareness – everybody knew about that campaign – but the lack of a comprehensive strategy tying it to other strategies resulted in little changes in Canadians' behaviours.

Evidence points to the effectiveness of using pricing incentives through taxation or discounts to promote healthy eating, or engage in physical activity.[34] However, in the case of price incentives to promote healthy eating, the effect may be reduced by people eating larger portions of low-fat foods, so that almost the same amount of energy was consumed compared to those choosing high-fat options.[35]

Point of decision nutritional information, such as food labeling and drawing attention to healthier restaurant menu selections can have a modest effect on behaviour.[36]

SELECTED VULNERABLE POPULATIONS

Strategies targeting the general population are not always effective at challenging overweight and obesity in vulnerable populations. In fact, some interventions may have unintended negative consequences that make the problem worse in one or more vulnerable populations. We know from other population health challenges, and common sense, that what is good for the majority is not necessarily good for all. Therefore, specific strategies must be developed to address the prevention of obesity/overweight and maintenance of healthy weight in vulnerable populations.

CHILDREN (INFANTS, YOUTH, ADOLESCENTS)

The most effective settings for healthy weights initiatives targeted at children are in the home with the family, and at school. This orientation is generally reflected in the list of strategies below. However, one strategy is targeted at expectant mothers, in recognition of the influence of their behaviours on the eventual outcomes for their children.

Strategy I: *Comprehensive school health programs*

Comprehensive school health programs incorporate both healthy food policies and programs, and active school policies and programs. Studies from Canada[37], Singapore and Germany report success in comprehensive school-based programs aimed at reducing obesity/overweight.[38] Evidence-based strategies within a comprehensive school health program would include:

(i) Classroom curriculum changes to encourage healthy lifestyle choices

Although education alone is not sufficient, enhanced health curricula with attention to nutrition and physical activity, and including a behavioural skills focus, would play an important role in a comprehensive school health program.[39] Further, poor or diminished outcomes are associated with classroom interventions incorporating little broad school/family/community involvement.[40]

Unlike most curriculum-based interventions, two have been shown to be effective at reducing youth's BMI and other measures of obesity/overweight on their own:

- curriculum designed to reduce television, videogame and recreational computer use;[41]
- curriculum designed to reduce soft drink consumption.[42]

(ii) School food policies

School food policies, such as the favourable pricing of nutritional foods in vending machines and cafeterias, and providing guidelines and meal planning resources to cafeteria staff have shown to be effective at changing behaviours.[43]

School-based interventions to increase consumption of fruits and vegetables have a small but significant effect; bigger effects are associated with interventions targeting parents with risk factors for cardiovascular disease.[44] This suggests the importance of engaging parents in strategies targeting youth.

(iii) Active school policies and programs

Although increasing funding for interscholastic sports does increase participation, it does not appear to improve measures of overweight/obesity.[45] However, there are a number

of policies and programs to make school children more active that have been shown to be effective: [46]

- supportive school physical education policies;
- active schools programs that incorporate moderate amounts of exercise in daily routines;
- active school routes such as the "Walking School Bus".

It should be noted, however, that two of five school-based multi-component interventions to increase activity in one rigorous review proved to be effective in changing only children's knowledge, and not their behaviours.[47]

Strategy II: Regulation of advertising and promotion of foods to children

Children, typically non-sophisticated consumers, influence many of the food purchasing decisions for their households. They are bombarded with media messages encouraging them to purchase and consume high-energy low-nutrient foods and beverages, and research suggests that long-term exposure to such advertisements may have adverse impacts due to a cumulative effect on children's eating and exercise habits. Little research has been done on the restriction of advertising for less healthy foods and beverages, however lessons learned from other areas of population health suggest that it will be an effective strategy.[48]

Media campaigns promoting activity and healthy nutrition are expected to be most successful if they are long term, and target both parents and children.[49]

Strategy III: Community organization-based programs

Evidence shows the effectiveness of programs developed by civic, faith-based, and social organizations to improve nutritional knowledge, increase activity, and reduce body weight or maintain healthy weight in boys and girls.[50]

Strategy IV: Family-based behavioural treatment

Family-based behavioural treatment has been shown to be an effective strategy for overweight children and adolescents.[51]

Strategy V: Education and support for expectant and new mothers

It is important for each expectant mother to understand that her decisions and actions during pregnancy and her child's infancy can have a significant impact on whether their baby will become an overweight or obese child. It is equally important that she acquires skills and receives support to make and carry out decisions that will contribute to her child's healthy weight, specifically in two areas:

- maintaining healthy weight throughout her pregnancy;[52]
- exclusively breastfeeding her child for the first six months of life, and continuing to augment with breastfeeding for preferably 12 months to two years or beyond.[53]

Strategy VI: Constructive family food practices (parenting behaviours)

Research results indicate that parents should consider developing family rules regarding food selection and eating. The following recommendations are made by the Institute of Medicine's Committee on Prevention of Obesity in Children and Youth:

- Allow children to determine their own portions at meals;
- Encourage children to pay attention to their own internal signals of fullness; do not insist on their "cleaning the plate";
- Avoid using food as a reward;
- Make fruits and vegetables readily available in the home;
- Offer smaller portions of foods;
- Carefully consider the quality of and the possible need to limit the types of snack foods and beverages that are available and accessible to children in the home;
- Parents should serve as positive role models for their children regarding eating behaviours.[54]

Strategy VII: Constructive family practices toward children's regular physical activity

Research also suggests that constructive family policies toward children's regular physical activity will have positive results. Examples include:

- Encouragement and support for physical activity;
- Limiting television viewing and other recreational screen time to less than two hours per day;
- Discussing weight status with child's health-care provider and monitoring age- and gender-specific BMI percentile;
- Serving as positive role models for their children regarding physical activity behaviours.[55]

LOW INCOME

Strategy I: *Food Security Programs and Policies*

Healthy food choices tend to be more expensive than high-energy low-nutrient foods. Food security programs and policies targeting low-income populations have been shown to be effective at reducing obesity/overweight.[56] Comprehensive food security approaches can incorporate a wide array of interventions, including those that minimize the cost of healthy foods, and educational programs to help participants learn to make healthier choices and prepare healthier foods:

- community kitchens,
- bulk buying clubs,
- community gardens,
- subsidized or free meal programs,
- discount programs for healthy food,
- healthy cooking classes,
- supermarket tours,
- nutrition education workshops.

ABORIGINAL

Our review was unsuccessful in identifying any effective healthy weight interventions targeted at Aboriginal populations. Two significant programs targeting aboriginal youth (in Canada, the

Kahnawake Schools Diabetes Prevention Project, and in the U.S., the Pathways Project) [1] both failed to achieve the desired results of reducing BMI in aboriginal school children. It has been noted that more obese aboriginal children are now entering Grade One, suggesting the need for family interventions focusing on mothers, infants and pre-schoolers.[57]

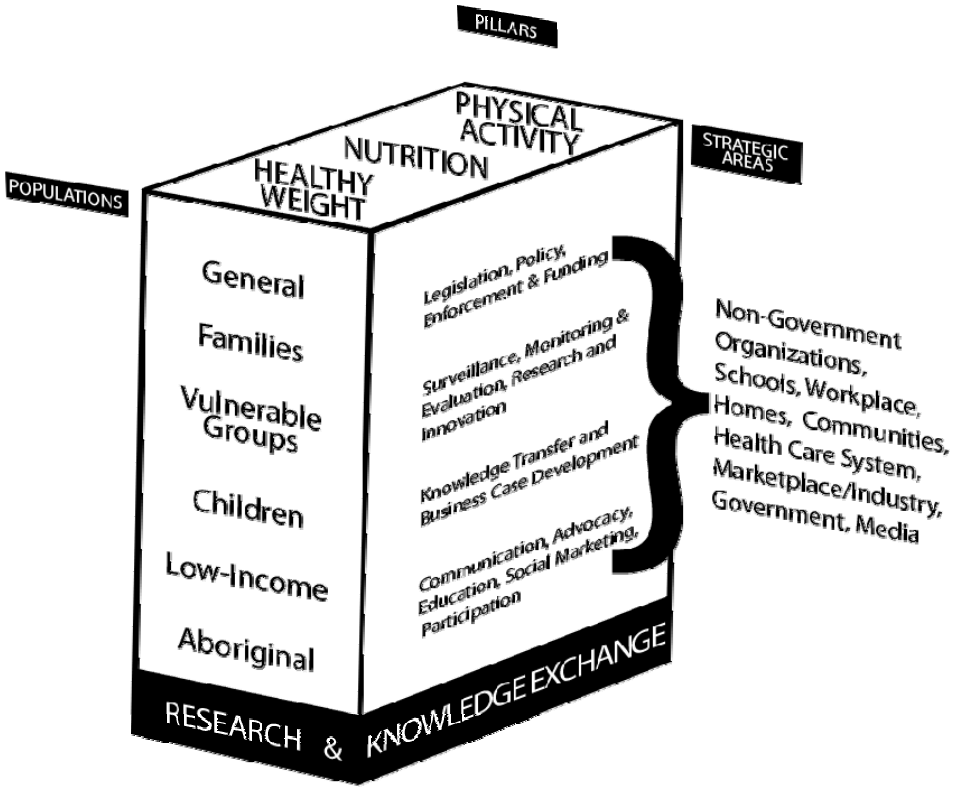
Although a multi-intervention, community-directed program targeting all ages in a remote Australian aboriginal community resulted in some positive health benefits, there too, no reduction was achieved in rates of obesity/overweight.[58]

From these studies and others, it is clear that to be successful, any healthy weights initiatives targeting the aboriginal population must employ new intervention strategies and evaluation components developed in consultation with the aboriginal groups.

[1] A randomized, controlled, school-based trial involving 1704 children in 41 schools that was conducted over 3 consecutive years, from 3rd to 5th grades, in schools serving American Indian communities in Arizona, New Mexico, and South Dakota. The intervention had 4 components: *1*) change in dietary intake, *2*) increase in physical activity, *3*) a classroom curriculum focused on healthy eating and lifestyle, and *4*) a family-involvement program. The main outcome measure was percentage body fat. The intervention resulted in no significant reduction in percentage body fat. More intense or longer interventions may be needed to significantly reduce adiposity in this population. [Caballero, B, Clay T, Davis SM, Ethelbah B, Rock BH, Lohman T, Norman J, Story M, Stone EJ, Stephenson L, and Stevens J. Pathways: a school-based, randomized controlled trial for the prevention of obesity in American Indian schoolchildren. *Am J Clin Nutr* 78 (2003): pp. 1030–8.]

APPLYING A SETTINGS PERSPECTIVE TO BETTER PRACTICES

The better practices findings show promising approaches across many sectors in society and there are many ways of organizing and presenting these findings. One option is to apply the 'settings' approach from health promotion to the findings of the better practices review by using the strategic areas of the framework described on pages 7 and 8 and depicted below.



A 'settings' approach considers the various circumstances in which people work, live and play and is a useful framework in which to consider the various evidence-based options for better practice and policy development in this field. This summary organizes the results of the evidence review around the following settings: the home, the school, the community, the workplace, the health care system, the marketplace/industry and government. Research, knowledge exchange and surveillance are strategies that support these settings approaches.

The level of evidence across these policies and practices is highly variable. In general, an approach that takes the best available evidence (as opposed to the best possible) should be taken.

The following summary highlights the interventions for various settings:

The home

- Parenting and eating habits:
  - Maintaining healthy weight throughout pregnancy – see below
  - Breastfeeding – see below
  - Allow children to determine their own portions at meals
  - Encourage children to pay attention to their own internal signals of fullness; do not insist on their 'cleaning their plate'
  - Avoid using food as a reward
  - Make fruits and vegetables readily available in the home
  - Offer smaller portions of foods

    - Limit the types of snack foods and beverages that are available and accessible to children in the home
    - Parents as a positive role model for their children regarding eating behaviours
- Parenting and physical activity:
    - Encouragement and support for physical activity
    - Limiting television viewing and other recreational screen time to less than 2 hours/day
    - Discussing weight status with child's health-care provider and monitoring age- and gender-specific BMI
    - Parents as positive role models for their children regarding physical activity behaviours

The school system

- Comprehensive programs that include physical activity, healthy nutrition, tobacco reduction, drug and alcohol education, healthy sexuality and injury prevention have had the best results. But within this approach it is highlighted that some specific interventions have been particularly well supported with randomized control trials (RCT) level evidence. These include:
    - Removing soft (sugar-based) drinks from the school setting
    - Encouraging reduced TV and electronic games usage
    - Walking school bus

  Other initiatives are not supported with the same evidential base:
    - Daily physical activity
    - Appropriate curriculum content regarding nutrition and physical activity (particularly reduced screen time and soft drinks as above)
    - Healthier choices in the cafeteria and vending machines
    - After school programs

  There is also evidence that school programs designed to achieve greater general support and bonding of the student with the school have beneficial effects on such issues as smoking and drug use.

The workplace

- There is considerable case study evidence that workplace wellness initiatives pay significant returns on investment. Interventions include:
    - onsite exercise facilities,
    - gym memberships,
    - healthier choices in the cafeteria,
    - secure bicycle storage,
    - showers/changing facilities,
    - social supports
    - education to promote healthy choices
    - reward programs (achieving weight reduction or fitness goals)

The community

- in general, a comprehensive, healthy communities approach is best; some specific interventions that could be included are:
    - Facilities for recreation: parks, playgrounds, playing field, recreation centres
    - Urban design/sprawl reduction

- Transportation policies
- Biking/walking/hiking/running trails, sidewalks, improved lighting
- Improved security and safety in parks, playgrounds, routes to schools
- Enhanced social supports (buddy systems, community development)
- Improved food security –
  - ✓ community kitchens,
  - ✓ bulk buying clubs,
  - ✓ community gardens,
  - ✓ subsidized/free meals,
  - ✓ discount prices for healthy foods,
  - ✓ healthy cooking classes,
  - ✓ supermarket tours,
  - ✓ nutrition education workshops

The health care system

- Promoting breastfeeding: exclusive first 6 months, continue 12 months and beyond.
- Encouraging a healthy weight throughout pregnancy
- Weight loss counselling and referral, commercial weight loss programs- Weight Watchers; family-based behavioural treatment
- Substitution diets (meal replacements)
- Pharmaceuticals (sibutramine, orlistat)
- Bariatric surgery
- Self-management training

Marketing/Industry

- Voluntary improved nutritional content of products
- Voluntary labelling and point-of- purchase nutritional information
- Voluntary comprehensive workplace wellness programs
- Voluntary restrictions on advertising junk food, particularly to children

Governmental interventions, mass media

- Price incentives: increase taxes on junk food, tax breaks for sports equipment, gym memberships
- Advertising restrictions
- Sales and product placement restrictions
- Labelling on product and at point of consumption (including stairs labelling)
- Mass media education campaigns
- Pedometer programs

ENDNOTES

[1] Birch LL. "Acquisition of Food Preferences and Eating Patterns in Children" in *Eating Disorders and Obesity: A Comprehensive Handbook*, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

[2] Better Solutions for Complex Problems: Description of a Model To Support Better Practices for Health, Canadian Tobacco Control Research Initiative (2002) http://www.ctcri.ca/files/BETTER%20SOLUTIONS%2012_02.pdf

[3] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[4] Rychetnik L, Frommer M, Hawe P, Shiell A. Criteria for evaluating evidence on public health interventions. J Epidemiol Community Health 2002; 56(2):119-127.

[5] Meeting of the Society of Behavioral Medicine Policy Committee, February 18, 2005. Personal notes.

[6] Mercer SL, Green LW, Rosenthal AC, Husten CG, Khan LK, Dietz WH. Possible lessons from the tobacco experience for obesity control. Am J Clin Nutr 2003; 77(4):1073S-11082.

[7] Best A, Tenkasi RV, Trochim WK, et al. "Systemic Transformational Change in Tobacco Control: An overview of the Initiative on the Study and Implementation of Systems (ISIS)" in *Innovations in Health Care: A Reality Check,* eds. A. Casebeer, A Harrison, AL Mark. (London: Palgrave MacMillan, in print).

[8] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Reger B, Wootan MG, Booth-Butterfield S. A comparison of different approaches to promote community-wide dietary change. American Journal of Preventive Medicine 18, 4 (2000): pp. 271-5.

Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

[9] Nissinen A, Kastarinen M, Tuomilehto J. Community control of hypertension: experiences from Finland. *Journal of Human Hypertension* 18 (2004): pp. 553-556.

Kastarinen MJ, Nissinen AM, Vartiainen EA, Jousilahti PJ, Korhonen HJ, Puska PM, Tuomilehto. Blood pressure levels and obesity trends in hypertensive and normotensive Finnish population from 1982 to 1997. *Journal of Hypertension*.18, 3 (Mar. 2000): pp. 255-62.

[10] Mercer SL, Green LW, Rosenthal AC, Husten CG, Khan LK, Dietz WH. Possible lessons from the tobacco experience for obesity control. Am J Clin Nutr 2003; 77(4):1073S-11082.

[11] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[12] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Brunton, G, Harden A, Rees R, Kavanagh J, Oliver S, Oakley A. (2003). Children and Physical Activity: A Systematic Review of Barriers and Facilitators. London: EPPICentre, Social Science Research Unit, Institute of Education, University of London.

Fulton J, et al Interventions for Weight Loss and Weight Gain Prevention Among Youth: Current Issues. *Sports Med* 31, 3 (2001).

Robinson TN. Reducing children's television viewing to prevent obesity: A randomized controlled trial. *J Am Med Assoc* 282, 16 (1999): pp. 1561-1567.

[13] James J, Thomas P, Cavan D, Kerr D. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomised controlled trial. *British Medical Journal.* doi:10.1136/bmj.38077.458438.EE (published 27 April 2004)

[14] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

[15] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Krueger H, & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Schmitz KH, Jeffery RW. Prevention of Obesity, in *Handbook of Obesity Treatment*, eds. T. A. Wadden and A. J. Stunkard. (New York: The Guilford Press, 2002).

Finkelstein E, French S, Variyam JN, Haines PS. Pros and Cons of Proposed Interventions to Promote Healthy Eating. *American Journal of Preventive Medicine,* 27, 3S (2004); pp.163–171.

[16] Kendall PRW. *An Ounce of Prevention A Public Health Rationale for the School as a Setting for Health Promotion: A Report of the Provincial Health Officer.* Victoria: Office of the Provincial Health Officer, B.C. Ministry of Health Planning. (2003).

Thomas J, Sutcliffe K, Harden A, Oakley A, Oliver S, Rees R, Brunton G, Kavanagh J. Children and Healthy Eating: A systematic review of barriers and facilitators. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. (2003).

[17] Snyder LB, Hamilton MA, Mitchell EW, et al. A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States. *Journal of Health Communication* 9, Suppl 1 (2004): pp. 71-96.

[18] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[19] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Krueger H, & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

Tudor-Locke CE, Myers AM, Bell RC, Harris SB, Rodger WN. Preliminary Outcome of the First Step Program: A Daily Physical Activity Intervention for Individuals With Type 2 Diabetes. *Patient Education and Counseling* 47, 1 (2002): pp. 23.28.

[20] Heshka S, Anderson JW, Atkinson RL, et al. Weight loss with self-help compared with a structured commercial program: a randomized trial. *JAMA* 289 14 (2003): pp. 1792-1798.

[21] Heber D. "Meal Replacements in the Treatment of Obesity" in *Eating Disorders and Obesity: A Comprehensive Handbook*, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

[22] Hillsdon M, Foster C, Naidoo B, et al. The Effectiveness of Public Health Interventions for Increasing Physical Activity. NHS Health Development Agency. 2004.

Tobin M. Physical activity counselling by health professionals. Canadian College of Family Physicians of Canada. 2000. Retrieved: December 15, 2004. From: http://www.cfpc.ca/English/cfpc/programs/patient%20care/physical%20activity/research/physical%20activity/default.asp?s=1.

[23] McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ et al. Screening for Obesity in Adults: Recommendations and Rationale. Annals of Internal Medicine 139[11], 930-932. 12-2-2003. American College of Physicians.

[24] McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ et al. Screening for Obesity in Adults: Recommendations and Rationale. Annals of Internal Medicine 139[11], 930-932. 12-2-2003. American College of Physicians.

[25] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Krueger H, & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ et al. Screening for Obesity in Adults: Recommendations and Rationale. Annals of Internal Medicine 139[11], 930-932. 12-2-2003. American College of Physicians.

[26] McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ et al. Screening for Obesity in Adults: Recommendations and Rationale. Annals of Internal Medicine 139[11], 930-932. 12-2-2003. American College of Physicians.

[27] Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

Kahn E B, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. *American Journal of Preventive Medicine* 22, Suppl. 4 (2002): pp. 73.107.

Hillsdon M, Foster C, Naidoo B, et al. The Effectiveness of Public Health Interventions for Increasing Physical Activity. NHS Health Development Agency. 2004.

[28] Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

Kahn E B, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. *American Journal of Preventive Medicine* 22, Suppl. 4 (2002): pp. 73.107.

[29] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004.

[30] Kahn E B, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. *American Journal of Preventive Medicine* 22, Suppl. 4 (2002): pp. 73.107.

[31] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004

Krueger H & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

Booth SL, Sallis JF, Ritenbaugh C, Hill JO, Birch LL, Frank LD, Glanz K, Himmelgreen DA, Mudd M, Popkin BM, Rickard KA. St Jeor S, Hays NP. Environmental and Societal Factors Affect Food Choice and Physical Activity: Rationale, Influences, and Leverage Points. *Nutrition Reviews* 59, Suppl. 3 (2001): pp. 57.65.

[32] Snyder LB, Hamilton MA, Mitchell EW, et al. A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States. *Journal of Health Communication* 9, Suppl 1 (2004): pp. 71-96.

[33] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[34] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Finkelstein E, French S, Variyam JN, Haines PS. Pros and Cons of Proposed Interventions to Promote Healthy Eating. *American Journal of Preventive Medicine,* 27, 3S (2004); pp.163–171.

French SA, Jeffery RW, Story M, Breitlow KK, Baxter JS, Hannan P, Snyder MP. Pricing and Promotion Effects on Low-fat Vending Snack Purchases: The CHIPS study. *American Journal of Public Health* 91, 1 (2001): pp. 112.117.

Matthiessen J, Fagt S, Biltoft-Jensen A et al. Size makes a difference *Public Health Nutrition* 6, 1 (2003): pp. 65-72.

[35] Matthiessen J, Fagt S, Biltoft-Jensen A et al. Size makes a difference *Public Health Nutrition* 6, 1 (2003): pp. 65-72.

[36] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Krueger H, & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Schmitz KH, Jeffery RW. Prevention of Obesity, in *Handbook of Obesity Treatment*, eds. T. A. Wadden and A. J. Stunkard. (New York: The Guilford Press, 2002).

[37] Veugelers PJ, Fitzgerald AL. Effectiveness of School Programs in Preventing Childhood Obesity: A Multilevel Comparison. *American Journal of Public Health* 95, 3 (2005): pp.432-435.

[38] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004

Brunton, G, Harden A, Rees R, Kavanagh J, Oliver S, Oakley A. Children and Physical Activity: A Systematic Review of Barriers and Facilitators. London: EPPICentre, Social Science Research Unit, Institute of Education, University of London. (2003).

Muller MJ, Asbeck I, Mast M, Langnase K, Grund A. Prevention of Obesity – more than an intention. Concept and fresh results of the Kiel Obesity Prevention Study (KOPS). *International Journal of Obesity & Related Metabolic Disorders* 15, Suppl. 1 (2001): pp. 66-74.

World Health Organization. *WHO Technical Report Series No 894. Obesity: Preventing and managing the global epidemic*. 2000.

[39] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[40] Kendall PRW. *An Ounce of Prevention A Public Health Rationale for the School as a Setting for Health Promotion: A Report of the Provincial Health Officer.* Victoria: Office of the Provincial Health Officer, B.C. Ministry of Health Planning. (2003).

Thomas J, Sutcliffe K, Harden A, Oakley A, Oliver S, Rees R, Brunton G, Kavanagh J. Children and Healthy Eating: A systematic review of barriers and facilitators. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. (2003).

[41] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Brunton, G, Harden A, Rees R, Kavanagh J, Oliver S, Oakley A. Children and Physical Activity: A Systematic Review of Barriers and Facilitators. London: EPPICentre, Social Science Research Unit, Institute of Education, University of London. (2003).

Fulton J, et al Interventions for Weight Loss and Weight Gain Prevention Among Youth: Current Issues. *Sports Med* 31, 3 (2001).

Robinson TN. Reducing children's television viewing to prevent obesity: A randomized controlled trial. *J Am Med Assoc* 282, 16 (1999): pp. 1561-1567.

[42] James J, Thomas P, Cavan D, Kerr D. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomised controlled trial. *British Medical Journal.* doi:10.1136/bmj.38077.458438.EE (published 27 April 2004)

[43] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004

Krueger H. & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness. BC Healthy Living Alliance. (2005).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[44] Thomas J, Sutcliffe K, Harden A, Oakley A, Oliver S, Rees R, Brunton G, Kavanagh J. Children and Healthy Eating: A systematic review of barriers and facilitators. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. (2003).

[45] Lopiano DA. Modern history of women in sports. Twenty-five years of Title IX. *Clin Sports Med* 19, 2 (2000): pp. 163-73.

[46] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

Kahn E B, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. *American Journal of Preventive Medicine* 22, Suppl. 4 (2002): pp. 73.107.

Thomas J, Sutcliffe K, Harden A, Oakley A, Oliver S, Rees R, Brunton G, Kavanagh J. Children and Healthy Eating: A systematic review of barriers and facilitators. London: EPPI-Centre, Social Science Research Unit, Institute of Education. University of London. (2003).

University of York. The prevention and treatment of childhood obesity. *Effective Health Care* 7, 6 (2002).

Campbell, K, Waters E, O'Meara S et al. Interventions for preventing obesity in children. *Cochrane Database of Systematic Reviews.* 2004.

[47] Brunton, G, Harden A, Rees R, Kavanagh J, Oliver S, Oakley A. Children and Physical Activity: A Systematic Review of Barriers and Facilitators. London: EPPICentre, Social Science Research Unit, Institute of Education, University of London. (2003).

[48] McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote Healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community Health Sciences, University of Calgary. August 2004

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Finkelstein E, French S, Variyam JN, Haines PS. Pros and Cons of Proposed Interventions to Promote Healthy Eating. *American Journal of Preventive Medicine,* 27, 3S (2004); pp.163–171.

[49] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[50] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[51] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Epstein LH, Valoski A, Wing RR, McCurley J. Ten-Year Follow-up of Behavioral, Family-Based Treatment for Obese Children. Journal of the American Medical Association 264, 19 (1990): pp. 2519.2523.

[52] Whitaker RC. Predicting preschooler obesity at birth: The role of maternal obesity in early pregnancy. *Pediatrics* 114 1 (2004): pp. e29-36.

[53] Dewey KG. Is breastfeeding protective against child obesity? *J. Hum Lact* 19 (2003): pp. 9-18.

Lederman SA, Akabas SR, Moore BJ, et al. Summary of the Presentations at the Conference on Preventing Childhood Obesity, December 8, 2003. *Pediatrics* 114 (2004): pp. 1146-1173.

Fewtrell MS. The long-term benefits of having been breast-fed. *Current Pediatrics* 14 (2004): pp. 97-103.

Health Canada. *Exclusive Breastfeeding Duration – 2004 Health Canada Recommendation.* Publication No. 4824. Her Majesty the Queen in Right of Canada (2004)

[54] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[55] Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

[56] Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. (2004).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Foreyt JP. "Weight Loss Programs for Minority Populations" in *Eating Disorders and Obesity: A Comprehensive Handbook*, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

Toronto Food Policy Council, Toronto Food Policy Council [on-line]. Retrieved: December 15, 2004. From: www.ryerson.ca/~foodsec/food-policy.

The Community Nutritionists Council of BC. Making the Connection – Food Security and Public Health. June 2004.

[57] Wortman J. Personal communication. December 2, 2004

Cargo M. Personal communication. December 8, 2004.

[58] Rowley KG, Daniel M, Skinner K, Skinner M, et al. Effectiveness of a community-directed 'healthy lifestyle' program in a remote Australian aboriginal community. *Australian and New Zealand Journal of Public Health* 24, 2 (Apr 2000): pp. 136-144.

SECTION B: ENVIRONMENTAL SCAN

An environmental scan was conducted to develop a sense of what kinds of healthy weights programs and activities are offered in BC. Interviews were carried out with 43 key informants from a variety of health and non-profit organizations (see Appendix D for a list of interviewees) over a one-month period from November 15 to December 15, 2004. Informants were asked to identify "healthy weight" interventions they knew about and/or were involved with, and provide information on program strategies, target audiences, funding status and "evidence-base." The majority of informants were from the health care and NGO sectors.

The following table presents a list of programs and activities grouped by the setting/environment in which they are offered or undertaken (healthcare, family, school, workplace or community). Appendix F offers a fuller description of the programs, as well as information on their sponsoring organization, their status (e.g. funding, whether they are time-limited or ongoing) and any supporting evidence informants were able to offer concerning their effectiveness.

To keep the environmental scan manageable within the constraints of this project, we limited our list to programs and activities mentioned by our informants. However, it is understood there are many other programs and activities in BC relating to healthy weight than are mentioned here. The large number and range of healthy weight programs in BC highlights the need for a streamlined and coordinated approach to at least some of these initiatives. In the absence of a coordinated and encompassing plan, it is likely that new initiatives are being developed and funded where existing programs could be adapted at lower cost to suit local needs, or for different target populations.

Some general observations from the environmental scan:

- Although the scan captured data on community-specific programs and activities mentioned by informants (e.g. one aimed at schoolchildren in Nanaimo and Ladysmith, one aimed at adolescents on the North Shore) it is important to note there will be many other municipal/community-based programs and activities not mentioned by informants and thus not included in this survey.
- There are a number of community initiatives that support healthy weight but which were not identified specifically as healthy weights initiatives. These include food bank/food security programs and community kitchens, which tend to operate at the community level rather than provincially.
- A number of the listed programs (e.g. the parenting skills classes) are not focused solely on healthy weight, but include many other aspects of healthy living. There are likely many other programs reflecting this wider focus on health that were not mentioned by informants in our survey.
- Programs offered in school settings seem to be the most coordinated in terms of a province-wide approach, no doubt because they tend to be centrally directed through the Ministry of Education. However, even in that setting there seem to be a number of different approaches to policy development at work.
- The survey includes information on only one private program: Weight Watchers, although many others are in operation around the province (e.g. Curves, Take Off Pounds Sensibly [TOPS], Jenny Craig, etc.). Randomized control trials have provided evidence that Weight Watchers is a relatively effective approach to healthy weight management. It is not known whether similar evidence is available in support of other such private programs.

- On the whole, the “evidence base” for many of the programs identified in this environmental scan appears weak. Rather than suggesting the evidence is non-existent, we suggest this is more likely due to our key informants being unaware of evidence supporting the programs they mentioned or are involved with.

SETTING	STRATEGY	POPULATION
Healthcare	**Programs**	
	BCMA Council on Health Promotion – Childhood Obesity Initiative: developing a public campaign aimed at speaking to parents about making healthy lifestyle changes for their families around balanced eating habits and increased physical activity. This is the Council's special project for 2005.	Parents and their children.
	Be Real: Counselling program offered on North Shore for "at risk" 11-19 year olds who show tendencies towards eating disorders.	11-19-year-olds.
	Physicians Promoting Healthy Living: Program providing physicians with resources to promote healthy living among patients. (Note: does not seem to be very active at present.)	All British Columbians.
	Shape Down: Ten-week counselling program offered to overweight teens and their parents by community-based nutritionists.	Overweight teens.
Family	**Programs**	
	BC Baby Friendly Initiative: Network of health professionals promote and support breast-feeding through newsletter and website and via public health nurses. (Health Canada, RNABC, provincial health authorities)	Mothers and infants.
	Healthy Start for Life: Dietitians of Canada and partner organizations promote development of healthy eating and activity patterns for preschool kids. Web-based resources and online courses.	Kids aged 2-5 across Canada.
	Heart Smart Fun Kits for Families: Resource kits distributed by teaches of Kindergarten through Grade 6 kids to help families become more active. (Heart & Stroke Foundation of BC/Yukon)	Families.
School	**Programs**	
	Action Schools! BC (program & policy): Encourages physical activity at school and fosters healthy weight interventions beyond the school setting, e.g. extracurricular and family/community activity. (Ministry of Health Services / Ministry of Education)	Pilot program initially targeted at Grades 4-7, with plan to target K to Grade 9 by 2008.
	Beauty from the Inside Out: Provincial program rotating to different schools each year, involves health professionals presenting on healthy lifestyles.	Grades 6 and 7, primarily girls
	Better Choices: Provincial program involving teachers talking to kids about healthy living. (BC Cancer Agency / Rotary Club)	Kindergarten through Grade 4.
	Children Teaching Children: Pilot program at two Sunshine Coast schools. Involves children in Grades 4 through 6 being trained in healthy lifestyle approaches, then teaming up as "buddies" with kids in Kindergarten through Grade 3. (BC Children's Hospital)	Kindergarten through Grade 3 (with Grades 4-6 as "trainers") in two Sunshine Coast schools.

SETTING	STRATEGY	POPULATION
	Healthy eating workshops: Offered through community nutritionists to teachers throughout BC so they can teach their students about nutrition. (BC Dairy Foundation / community nutritionists)	Teachers of Kindergarten to Grade 10 kids.
	Heart Smart Kids: Trains teachers of Kindergarten through Grade 6 so they can teach their students about physical activity, healthy eating, smoking etc. (Heart & Stroke Foundation of BC/Yukon)	Kindergarten – Grade 6 teachers and their students.
	Heart Smart Kids – aboriginal focus: Developed from above program but reflecting aboriginal values and culture. (Heart & Stroke Foundation of BC/Yukon)	Grades 4-6 teachers and First Nations students.
	Jump Rope for Heart/Hoops for Heart: Annual fundraising program offered by Heart and Stroke staff in BC schools encourages kids to jump rope and play basketball. (Heart & Stroke Foundation of BC/Yukon)	School-aged kids in BC.
	Knowledge Network Interactive: Involves forums for high school students about healthy eating, as well as development and implementation of "healthy food" policies.	High school kids in BC.
	Move More, Eat Well: Activities for schoolchildren plus a newsletter that goes home to their families. (BC Pediatric Society)	Nanaimo and Ladysmith school kids and their parents.
School	**Policies**	
	DASH: Directorate of Agencies for School Health: Partnership promoting policies and providing resources relating to healthy nutrition.	School-aged children.
	Feed the Minds and Bodies of BC Students: Involves dietitians working with key decision-makers to identify barriers to healthy living in schools. (Dieticians of Canada – BC Region)	School-aged children.
Workplace		
	BC Central Credit Union: Provides credits for employees who participate in activities related to health, well-being, etc. with focus on fitness. Cash awards given who employees who reach specific point levels.	BCCU employees (300)
	Healthy Work Program: Pilot project at Ministry of Health Services offices to encourage active lifestyles through activity in the workplace (e.g. taking stairs rather than elevator).	Ministry of Health Services employees.
	TELUS: Company has invested in fitness facilities at larger worksites; offers nutrition counselling, healthy food choices promoted in company cafeterias, supports health of employee through a variety of initiatives. Corporate wellness manager position created in 2003.	TELUS employees throughout BC and Canada (25,000 in total)
Community	**Programs**	
	BC Food Systems Network: Operates various programs that teach people about, and offer access, to healthy food (community kitchens, community gardens).	Families.

SETTING	STRATEGY	POPULATION
	Cooking for Your Life: Healthy cooking classes offered through Lower Mainland continuing education classes. (Canadian Diabetes Assn.)	Adults in Lower Mainland.
	Cooking Fun for Families: Offered in BC Interior and based on above Lower Mainland program. (Interior Health Authority)	Families.
	BCMA Council on Health Promotion – Childhood Obesity Initiative: Developing a public campaign to encourage healthy eating and physical activity.	Parents and their school-aged kids.
	Dial-a-Dietitian: Nurses offer free nutrition advice to callers. (Ministry of Health Services - BC NurseLine)	All British Columbians.
	Eat Well, Play Well: Web-based initiative promoting healthy eating/active living. (Dietitians of Canada)	Families across Canada.
	Golf for Your Life: Free summer program for kids with asthma and weight issues; involves learning how to golf while also learning about healthy lifestyle. (BC Lung Assn.)	Lower Mainland kids aged 9-14.
	Healthy Eating Active Living (HEAL): diabetes-prevention program focusing on healthy eating and physical activity. Involves workshops for community members and website. (Northern Health / Interior Health Authorities)	Northern British Columbians.
	Healthy cities programs: Various communities in BC have municipal programs encouraging healthier lifestyles. E.g. Surrey received an award from WHO in 2002 for their plan launched in 1999 to reduce the number of inactive people in Surrey by 10% by 2005; there are five major components: increasing awareness, changing physical activity behaviour, supportive environments, partnerships, and employee wellness.	Various BC communities, such as Kamloops, Abbotsford and Surrey.
	Hearts at Work: Community centre program teaches participants about risk behaviours associated with heart disease. (Healthy Hearts Society of BC)	British Columbians at risk of heart disease.
	Nutrition Month (March): Annual themed month by Canadian dieticians offering various programs through schools, community centres and a website.	Families across Canada.
	Shop Smart Tour: Nutritionists offer tour through grocery stores and education about healthy eating. (Save On Foods)	Personalized for various populations including people with diabetes, people with heart disease, young families, and women.
	Success by Six: Develops capacity in communities for ensuring coordination of healthy living programs targeted at young families. (Note: 18-month pilot program.) (United Way /BC Credit Unions)	Selected BC communities; ultimate "target" families of under-sixes.

SETTING	STRATEGY	POPULATION
	Waddell Project: Supports community action on tobacco control, weight maintenance, exercise and healthy eating. (PHSA/ BC Cancer Agency)	People of all ages in selected BC Interior communities.
	Weight Watchers BC: Privately offered program offering weekly meetings/support groups for people seeking to lose weight.	BC Adults (18-54).
Community	**Policies**	
	Cost of Eating Report: Involves nutritionist assessing the ability of low-income families to eat healthy food. (Nutritionists council)	Families.
	Act Now! BC: Combines cross-government and community-based approaches to address common chronic disease risk factors through programs and initiatives that support healthier eating, physical activity, ending tobacco use and promoting healthy choices during pregnancy (Ministry of Health Services)	All British Columbians.

SECTION C: ANALYSIS

A gap analysis was conducted by comparing the better practices found in the literature review against the healthy weights activities existing in BC found in the environmental scan. It is important to recognize that this is a preliminary gap analysis, due to the fact that the list of activities in the province was limited to those mentioned by 40 key informants, and is therefore not exhaustive.

GENERAL POPULATION

Strategy I: *Increased research and surveillance, improved knowledge exchange*
Preliminary Gap Analysis: Very little is known about the evidence base for much of the healthy weights activities in BC, and few programs incorporate evaluation components. There is a need for leadership and coordination to facilitate knowledge exchange. Some surveillance projects, such as the Cost of Eating Report, are well established; Action Schools BC provides an opportunity for widespread data collection on youth, but school participation is optional.

Strategy II*: Improved coordination of efforts*
Preliminary Gap Analysis: The recent Healthy Weights Consultation Forum hosted by PHSA, and the PHSA-sponsored environmental scan are positive steps toward increased coordination of healthy weights efforts in BC. Acting on the recommendations of the Consultation Forum, participants would see PHSA taking a leadership role in facilitation and coordination of a more effective and efficient healthy weights community. Capacity building efforts such as Action Now! BC and Success by Six could serve as foundational structures.

Strategy III: *Comprehensive community-based programs*
Preliminary Gap Analysis: There is a great deal of healthy weights activity in BC, but almost all of it is occurring outside comprehensive coordinating frameworks, and the number and comprehensiveness of interventions are inconsistent across regions and populations. The introduction of Healthy BC 2010 may provide an opportunity for developing multi-modal, multi-sectoral strategies. Existing programs such as HEAL and the Waddell Project could serve as building blocks.

Strategy IV: *Education and raising awareness*
Preliminary Gap Analysis: A great deal of energy is being concentrated on school-based educational interventions in BC, without a great deal of apparent coordination or linkages to other components of an integrated strategy. The environmental scan did not surface any programs implementing one of the most effective educational strategies: classroom curriculum targeting the reduction of recreational video use in youth.

Cooking Fun for Families, Cooking for Your Health, Golf for Your Life and Shop Smart are examples of participatory educational initiatives in BC.

Strategy V: *Commercial weight-loss programs*
Preliminary Gap Analysis: Dozens of Weight Watchers groups are located throughout BC. There are many other commercial weight loss program providers as well, although there is not yet published evidence to show whether those programs are equally, more or less effective than Weight Watchers. Rural and remote communities are typically less served by these organizations.

Strategy VI: *Primary care interventions*
Preliminary Gap Analysis: The environmental scan surfaced information about physician-centred programs, however one such program, “Physicians Promoting Healthy Living,” is

reported to be inactive. The extent to which effective clinical practices are being employed in BC was not explored in the environmental scan.

Strategy VII: ***Individually adapted health behaviour change programs***
Preliminary Gap Analysis: The status of such programs in BC is unknown.

Strategy VIII: ***Social support interventions***
Preliminary Gap Analysis: "Children Teaching Children" is an example of this type of intervention in BC. Fitness clubs and a variety of community centres often provide social support interventions. Opportunities and methods could be sought to increase their prevalence and better practices in various populations throughout the province.

Strategy IX: ***Creation of, or enhanced access to places for physical activity***
Preliminary Gap Analysis: The environmental scan did not identify any specific application of this strategy in BC, however a number of communities throughout the province have municipal programs to encourage healthier lifestyles. It is not known if creation of, or enhanced access to places for physical activity is a part of any of those programs.

Strategy X: ***Comprehensive worksite health promotion***
Preliminary Gap Analysis: Some employers, such as TELUS and BC Central Credit Union, have dedicated staff positions to coordinate extensive worksite health promotion programs. It is not known how common worksite health promotion strategies are among organizations in BC.

Strategy XI: ***Marketing (pricing and advertising promotion)***
Preliminary Gap Analysis: The status of such initiatives in BC is unknown. The Government of BC is beginning to explore fiscal incentives, such as the removal of Provincial Sales Tax on bicycle helmets, to encourage healthier lifestyles.

SELECTED VULNERABLE POPULATIONS

CHILDREN (INFANTS, YOUTH, ADOLESCENTS)

Strategy I:

(i) ***Classroom curriculum changes to encourage healthy lifestyle choices***
Preliminary Gap Analysis: As noted in the "education" section for the general population (Strategy VIII), a great deal of emphasis is given to school-based educational interventions in BC, with no apparent coordination or linkage to other components of an integrated strategy. The exception is the Action Schools! BC program. The environmental scan did not surface any programs implementing what may be the most effective educational strategies: classroom curricula targeting the reduction of recreational video use in youth, or reducing soft drink consumption.

Participatory educational programs such as Cooking Fun for Families and Golf for Your Life are examples of interventions that may be more effective than passive classroom-based learning.

(ii) ***School food policies***
Preliminary Gap Analysis: Some of the schools participating in Action Schools! BC are employing policies to encourage healthy nutritional choices.

(iii) ***Active school policies and programs***
Preliminary Gap Analysis: It is expected that many of the schools participating in Action Schools! BC are instituting active school policies and programs. Various

programs focusing on active school routes are underway in BC, however their prevalence is unknown.

Strategy II: ***Regulation of advertising and promotion of foods to children***
Preliminary Gap Analysis: Some BC schools are limiting sponsorship and advertising by soft drink companies.

Strategy III: ***Community organization-based programs***
Preliminary Gap Analysis: It is not known to what extent these programs exist in BC

Strategy IV: ***Family-based behavioural treatment***
Preliminary Gap Analysis: It is not known to what extent this strategy is being employed in BC

Strategy VII: ***Comprehensive school health programs***
Preliminary Gap Analysis: Action Schools! BC has nearly tripled its targeted number of participating schools, and funding has been allocated for the next five years. However, individual schools determine whether or not they will participate, and each school determines which components of the program it will adopt, leading to a patchwork effect even amongst participating schools.

Strategy VIII: ***Education and support for expectant and new mothers***
Preliminary Gap Analysis: The extent to which educational strategies for expectant and new mothers has been implemented in BC was not explored in the environmental scan.

Strategy IX: ***Constructive family food practices (parenting behaviours)***
Preliminary Gap Analysis: The extent to which constructive family feeding policies are incorporated into strategies targeting parents in BC is not known. The prevalence of these family policies in homes throughout BC is also unknown.

Strategy X: ***Constructive family practices toward children's regular physical activity***
Preliminary Gap Analysis: The extent to which constructive family policies toward children's regular physical activity are incorporated into strategies targeting parents in BC is not known. The prevalence of these family policies in BC is also unknown.

LOW INCOME

Strategy I: ***Food Security Programs and Policies***
Preliminary Gap Analysis: Several organizations coordinate and/or deliver programs targeting low-income families in BC, including the BC Public Health Alliance on Food Security, the Food Democracy Network, and many community-based NGOs. Additional information is required to identify underserved populations, and to determine the degree of coordination that exists between stakeholders.

ABORIGINAL

Preliminary Gap Analysis: It is not known to what extent strategies are currently being employed to prevent obesity/overweight and achieve and maintain healthy weights in BC's aboriginal population.

SECTION D: RECOMMENDATIONS

The following recommendations are largely based on the preliminary gap analysis of findings from the literature review and the environmental scan conducted for this report.

BETTER PRACTICES

To enhance the effectiveness of strategies that address obesity/overweight, it will be necessary to further develop better practices in the area of healthy weights. Next steps could include:

- Investing in demonstration projects for promising strategies;
- Developing strategies for improving the exchange of knowledge between researchers and policy makers/practitioners;
- Improving surveillance of obesity/overweight and its associated behavioural risk factors;
- Implementing an effective evaluation component for existing and new healthy weights initiatives.

REGIONAL SCAN OF ACTIVITIES

The environmental scan conducted for this report suggests there is a vast amount of healthy weights activity in BC, there appears to be limited overall coordination of efforts. Furthermore, little is known about the evidence base for most of these interventions.

Next steps toward improving the efficiency and effectiveness of healthy weights activities in BC could include conducting a comprehensive environmental scan of regional healthy weights activities. Such a scan could:

- Identify successful community-based initiatives that might serve as a model for other communities;
- Help to identify unnecessary redundancies and gaps (underserved regions and populations);
- Provide information for an accurate comparison of current practices versus better practices;
- Provide information for the coordination and promotion of a province-wide healthy weights strategy.

The evidence for the success of coordinated initiatives suggests that future research should also seek to determine ways in which organizations and communities might work together to coordinate their healthy weights efforts.

LEADERSHIP & COORDINATION

There is a need for stronger leadership and better coordination of activities related to healthy weights in BC in order to successfully address the problem of obesity/overweight. Based on the recommendations of the Consultation Forum, PHSA is well positioned to fulfil this role.

Next steps toward improving coordination of healthy weights efforts in BC could include:

- Developing an overarching healthy weights strategy for the province;
- Developing coalitions to strategically manage advocacy and planning;
- Mapping healthy weights stakeholders and the roles they play within the province toward developing a more effective healthy weights community in BC.

CHILDREN

The environmental scan revealed a strong focus on healthy weights interventions channelled through the school system. Better practices evidence suggests this focus should be complemented by other strategies to provide a more comprehensive and effective solution, as educational interventions alone are not sufficient for changing behaviours; multi-component, multi-focal strategies are more effective at producing results at the population level.

Within the educational setting, the Action Schools! BC program stands out as a singular example of a relatively comprehensive initiative. However, the program is not ubiquitous; schools participate in the program voluntarily. Furthermore, the program would produce better results if its interventions were tied to strategies targeting youth elsewhere in the community.

In the educational setting, next steps could include:

- Implementing the Action Schools! BC program in all schools province-wide;
- Introducing classroom curriculum to support a reduction of recreational video use (e.g. video games) among youth;
- Introducing classroom curriculum to support a reduction of soft drink consumption among youth;
- Coordinating the Action Schools! BC program with strategies for addressing the behaviours of children and youth outside the school setting (e.g. homes and recreation facilities).

LOW INCOME

Obesity disproportionately occurs in lower income groups. Food security programs and policies have been shown to be effective in reducing obesity/overweight in this population, by improving accessibility to healthier choices. The environmental scan surfaced many such initiatives in BC. Two next steps that could be carried out in tandem to ensure maximal effectiveness and reach of these programs would be:

- Conducting an investigation to identify underserved low-income populations;
- Engaging in a province-wide survey of organizations that coordinate and/or deliver programs targeting low-income British Columbians.

ABORIGINAL

Obesity rates for aboriginal populations are alarming, and existing strategies have not been effective. Resources should be focused on working with aboriginal communities to develop new, more intensive, and/or longer-term interventions. Such interventions should include food security programs and policies that successfully promote healthy weights in lower income groups.

SECTION E: PROCEEDINGS OF PHSA HEALTHY WEIGHTS CONSULTATION FORUM

PHSA Healthy Weights Consultation Forum

November 29, 2004
9:00 am – 3:30 pm
Executive Inn, 1379 Howe Street, Vancouver, BC

PROCEEDINGS

The following provides a synopsis and analysis for the health weights consultation held at the Executive Hotel, Vancouver, on November 30th, 2004. The consultation was held with a number of express purposes:

- To identify a role for PHSA in the area of healthy weights;
- To seek input on the issue of effective action for healthy weights efforts in BC, by acting as a forum for informing the environmental scan detailed elsewhere in this report;
- As a forum for connecting prominent stakeholder organizations as an opportunity to create common ground for future inter-organizational interaction (both independently, and PHSA sponsored);

The consultation successfully achieved its goals in each of these areas. The following summary synthesizes feedback on potential roles for PHSA.

A role for PHSA

Consultation participants identified a number of needs in the current efforts in healthy weights in BC. PHSA was identified as having a level of legitimacy, given its provincial mandate and its broad reach, to potentially play a variety of roles:

Provide Strategic Vision and Leadership

There is a clear need for a leader on healthy weights, which most participants recognize. The current system is seen as disjointed and uncoordinated. Further, participants identify issues outside the scope of their organizational mandate but necessary for population-level advancement and culture change. PHSA is seen as a legitimate stakeholder to champion this issue in a collaborative structure.

Education and Advocacy

There is an underlying concern among stakeholders that decision makers, public health workers, clinicians, and the public are acting based on anecdotal reports. PHSA could position itself as the organization that teaches the teachers and informs decision makers, at all levels, with the best available evidence. Where decisions may lead to, or have led to outcomes which undermine healthy weights efforts, PHSA could advocate change in the appropriate communities.

Surveillance and Evaluation

In addition to what we know works, we understand that some things seem to work, but are not supported by any evaluation or surveillance mechanisms. PHSA is perceived to be in the unique position to gather data for informed action. This surveillance network would need to be based in the community, and could provide a stream of data to support or refute current practice. There is also a need to position efforts in a more comprehensive context that addresses both current and future demographic demands. Such positioning will require the development of effective decision support tools and evaluation mechanisms.

Knowledge Brokering and Transfer

A need for knowledge brokering, knowledge translation and knowledge management was identified. Knowledge brokering is about disseminating what we already know works to those who can incorporate evidence in their decision-making. PHSA could support effective knowledge translation by acting as a bridge between research and practice to support relevant research and evidence-based practice. PHSA could also play a role as knowledge manager, providing a single resource repository on the issue of healthy weights, as well as an infrastructure for inter-organizational collaboration on the issue.

Facilitation of collaboration for improved inter-organizational coordination

PHSA could play a role in the support and improvement of inter-organizational collaborative planning and action among the BC healthy weights community. By serving as a convener that draws representation from industry, education, the healthy weights community, and the public, PHSA can strengthen current efforts through the support of effective alliances on healthy weights through the creation of a set of standards and services for organizations.

INTRODUCTION

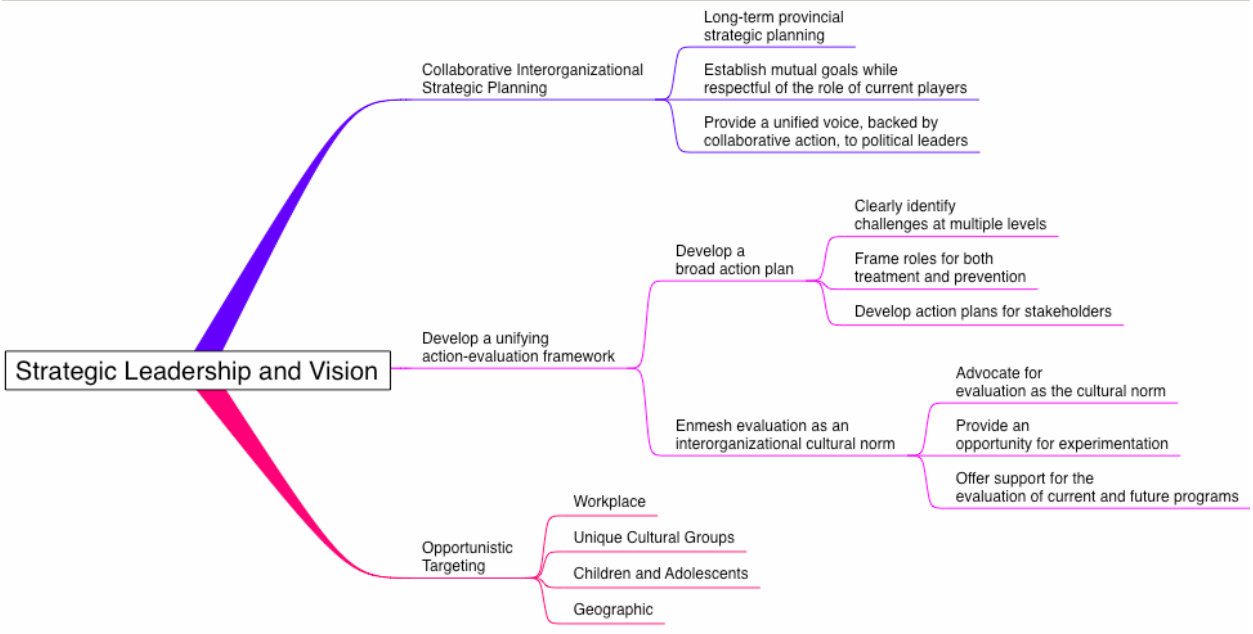
On November 30th, 2004, the Provincial Health Services Authority (PHSA) hosted a consultation at the Executive Hotel in Vancouver. This consultation included over 30 representatives from organizations throughout British Columbia on the issue of building consensus around a role for PHSA in the domain of healthy weights. Consultation participants identified a number of needs, both primary and ancillary, to support efforts in healthy weights. PHSA was identified as having a level of legitimacy, given its provincial mandate and its broad reach, to play a role on a number of levels. This report provides both a synopsis and analysis for that consultation.

The consultation resulted in the identification of five potential areas for action. These areas of action were developed based on the feedback of participants as areas of need that were also appropriate to the organizational mission of PHSA. Some recommendations were outside the scope of the mission of PHSA, including programmatic recommendations such as certification for restaurants using organic products. The areas of action are as follows:

- Provide Strategic Vision and Leadership
- Education and Advocacy
- Surveillance and Evaluation
- Knowledge Brokering and Transfer
- Facilitation of collaboration for improved inter-organizational coordination

This report will expand on these findings.

STRATEGIC VISION AND LEADERSHIP



Consultation participants recognize the need for a community leader. The current system is seen as disjointed and uncoordinated, with organizations acting in ways each individually believes will create effective change. In addition, organizations recognize that creating long-term change is beyond the ability of their single organization. A legitimate leader is necessary for population-level advancement and culture change.

The consultation participants also spoke to the characteristics of their ideal leader. These include that the leader:

- be collaborative and sensitive to the current political and organizational environment;
- have a long-term vision;
- be willing to lead with only partial information;
- recognize environments and opportunities for effective intervention and action;
- be willing to support risk-taking behavior, but advocate based on results.

<u>Collaborative Inter-organizational Strategic Planning</u>

The consultation established that there was a need for long-term provincial strategic planning. Organizations are currently engaged in activities without such a plan, leading to a belief that current efforts are less effective than possible. Consultation participants also expressed concerns that PHSA could develop a plan without engaging the current players in the community in a collaborative process. Participants hope that a provincial strategic plan, endorsed by a diverse set of stakeholders, will provide a unified voice on the issues surrounding policies and regulations that affect the healthy weights issue. This unified voice, they suggest, would have more legitimate authority and could be used as a tool to spearhead social change.

<u>A unifying action-evaluation framework</u>

Beyond the process of planning, participants indicated a need for frameworks for action and evaluation. Such frameworks would incorporate both action and evaluation components on a very broad scope. The action plan would map out challenges faced at multiple levels – individual, group, organizational, regional and provincial – as a means of guiding policy, practice and research. This plan would identify leverage points for action through both treatment and

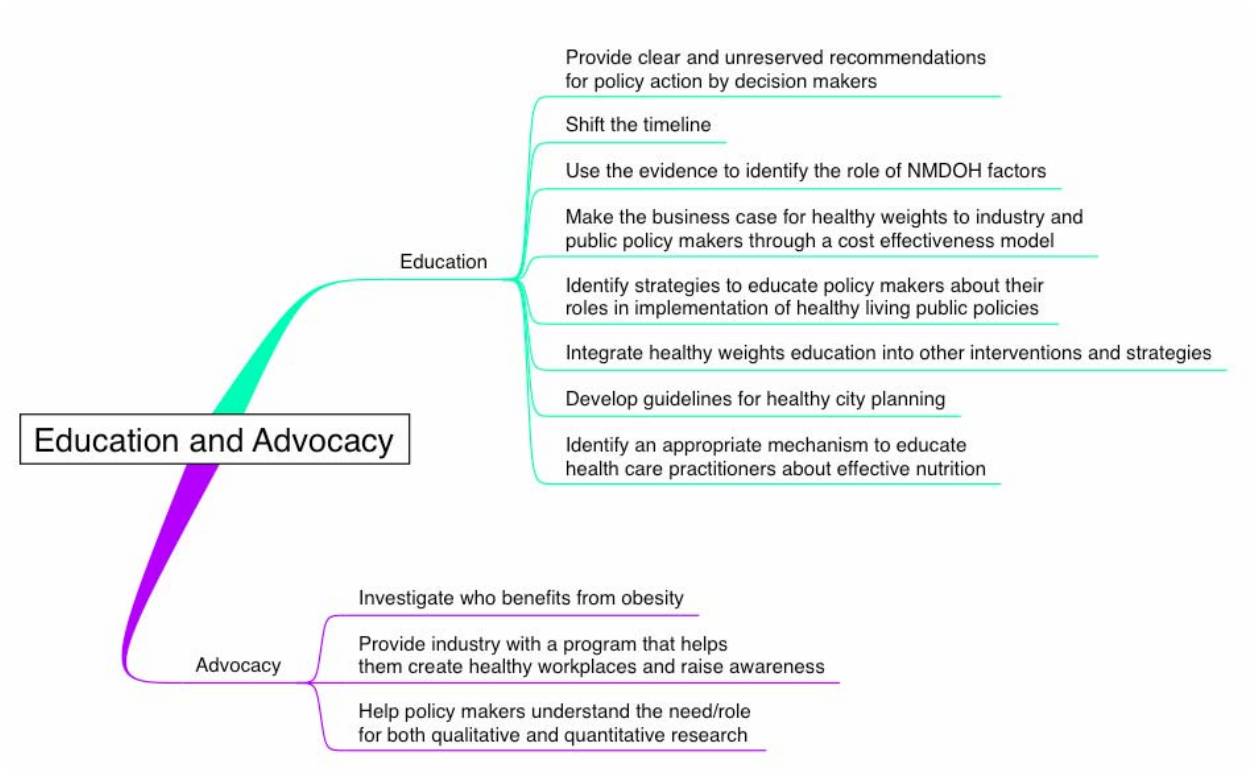
prevention. Such a plan would enable organizations to create related strategic and action plans that would move in concert with broader provincial efforts.

Consultees expressed a very strong need for the action plan to be linked to an evaluative plan as well. There is a good deal of concern regarding the *ad hoc* nature of current efforts. Without an evaluation framework situated within a surveillance network, organizations could move in concert based on faulty assumptions. The change away from the current organizational cultures of the respective participants will require a strong collaborative leadership for advocacy on the role of evaluation in these efforts.

Targeted Vision

Finally, the consultation process identified the need for targeted interventions in specific demographic groups and locations. The examples identified included workplace interventions, as well as specific cultural and demographic groups. Concerns about the increasing trend in adolescent and child weights have raised an alarm among participants who literally see a growing problem. In addition, the consultation participants raised concerns about population segments underserved by virtue of geography. Those who live in less accessible areas are generally less affected by prevention and promotion activities than those in urban areas. There is a need for a strategic approach to address healthy weights issues in these populations.

EDUCATION AND ADVOCACY



One of the significant findings was the perceived complexity of the stakeholder community on healthy weights. The following list gives an indication of the complexity of the stakeholder domain as seen by the consultation group:

- Health Authority Decision Makers
- The Ministries of Health, Education, Agriculture, Transportation, Child and Family Development, and Business and Economic Development
- Non-Governmental Organizations (NGOs)
- Researchers
- Research Funders
- Program Funders
- Clinicians and Medical Practitioners
- Public Health Nurses
- School and School Districts
- The Public
- Parents
- Adolescents
- Universities
- Media
- Professional Associations
- Business and Industry
- Politicians

Education

Each of these stakeholders has specific needs for information. For example, public health nurses are in need of collateral materials detailing effective change. Each of these groups has a specific unmet education need, and for many the lack of education has had ripple effects on other stakeholder groups. The following education needs [*sic.*] were specifically identified:

- Clear and unreserved action recommendations for decision-makers;
- Realistic timeline expectations for social change;
- Construct the change process as one that incorporates a realistic timeline for change;
- Develop a business case for the value of healthy weights interventions in the workplace;
- Identify strategies to educate policy makers about their roles in implement of healthy living public policies;
- Integrate healthy weights education into other interventions and strategies; and,
- Provide evidence-based guidelines for healthy city planning.

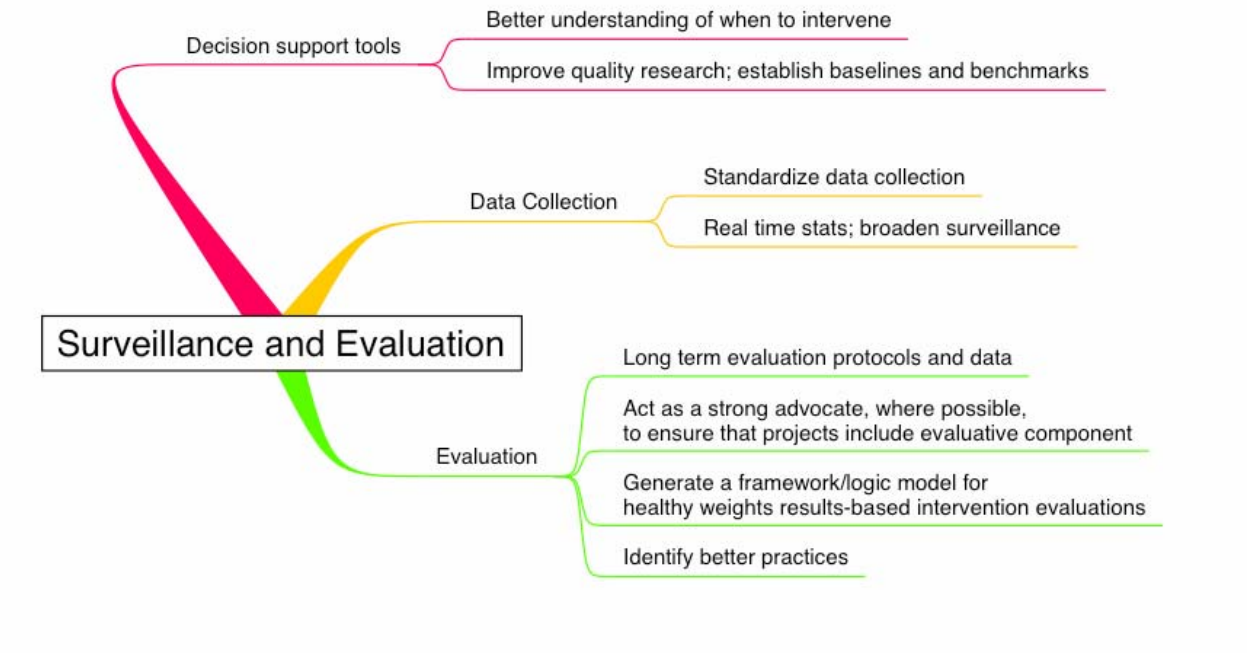
These represent domain-specific, high impact interventions that would facilitate stakeholders' abilities to engender change. Providing support materials to enable potential champions could remove a significant stumbling block to both systematic and system-wide change.

Advocacy

While education plays a critical role for change, there is also a need for leadership in the form of advocacy with these same stakeholder groups. The community has identified a need for a strong voice to advocate transformational change. The consultation group understands that society is not unified toward dealing with the issue of healthy weights. Individuals understand the importance of achieving and maintaining a healthy weight, but make choices that show that they give priority to convenience, and short-term satisfaction. At a systemic level, there are actors that benefit from those decisions. Beyond education alone as a goal/function, those engaged in healthy weights efforts see a need for a voice to go beyond education and take a position as an advocate for outcomes.

The consultees have noted a need for an advocate similar to the role played by the U.S. Surgeon General, who addressed the negative impacts of tobacco use on relatively loose data. Such a champion, whether a person, organization, or collaborative collective of organizations, could provide a powerful voice in the issue of healthy weights. For example, it could investigate who benefits from obesity and identify the role of consultants in supporting and lobbying for policy at all levels. It could rally interested industry toward the cause by selling the idea that a healthy population is in its best interest. It could address the legitimacy of various research programs by helping policy and decision makers understand the needs for, and roles of both qualitative and quantitative research on healthy weights. Finally, it could act as an advocate to funders about the need for evaluation research on interventions.

SURVEILLANCE AND EVALUATION



Participants identified a specific role for PHSA in terms of surveillance and evaluation. Identified needs were found in three specific areas. First, there is a need for decision support tools. Second, the need for improved collection and access to data. Finally, a surveillance and evaluation framework based on both qualitative and quantitative methods that is focused on results and not outputs alone.

Decision Support Tools

Organizations at all levels seek to find the greatest benefit for their investments. More specifically, organizations seek tools to help them identify which interventions will result in the greatest change at the population level. Consultees seek a better understanding of when and where to intervene with programs. Further, as part of this decision support network, there is also a more general need for baselines and benchmarks to determine if intervention efforts are effective. The need for research on the quality of interventions is high.

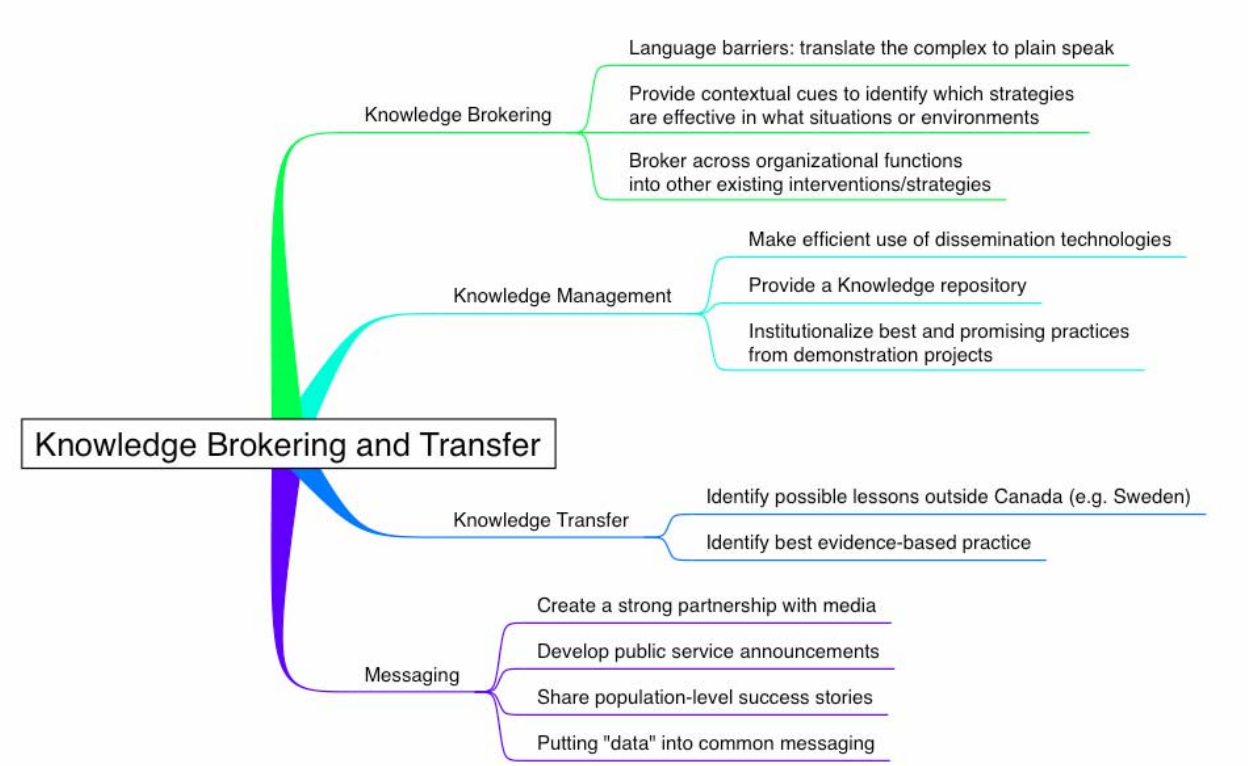
Data Collection

Along with an imperative to improve the nature of data to create these support tools, there is a simultaneous need to standardize the collection of data. Such collection efforts must be built on a broader provincial surveillance framework that includes both long-term and short-term indicators. This would involve the establishment of improved real-time statistics.

Evaluation

Data collection and the creation of decision support tools require an *a priori* determination of the basis for evaluation. This is a consistent challenge raised by consultees who have highlighted the need for the creation of long-term evaluation protocols based on a logic-model process that is results-based rather than prospectively outcome oriented. Concerns exist around the need for evaluation based on results, rather than logic about causality. Finally, the need for improved evaluation mechanisms extend to the evaluation of practices both inside and outside of the province.

KNOWLEDGE BROKERING AND TRANSFER



By the end of the day, the assembled began to recognize that each of them was there for a related purpose, although many were interested for different reasons. Barriers to understanding between allies are barriers to creating a common vision for action. PHSA can play a key role in bridging organizations through the exchange of knowledge; this section focuses on the role PHSA could play in terms of information exchange.

Knowledge Brokering

Knowledge brokering, in this context, is about connecting members of the community to allow them to learn from each other. Effective knowledge brokering requires particular attention to the language barriers posed by organizations dealing with the problem from different vantage points. The perspective of an organization providing nutrition services will be much different than an organization that develops material for health services professionals in the context of

continuing education. Still, each of these domains can benefit from the work of the other. A good knowledge broker will enable effective network interaction across organizational functions and into exiting interventions and strategies.

Knowledge Management

Knowledge management, in this context, is about disseminating what we know to all members of the community. This includes the creation of a knowledge repository, and methods for the institutionalization of better practices from demonstration projects. Dissemination of these findings across organizational boundaries is currently not seen as falling within the domain of any one organization within the community

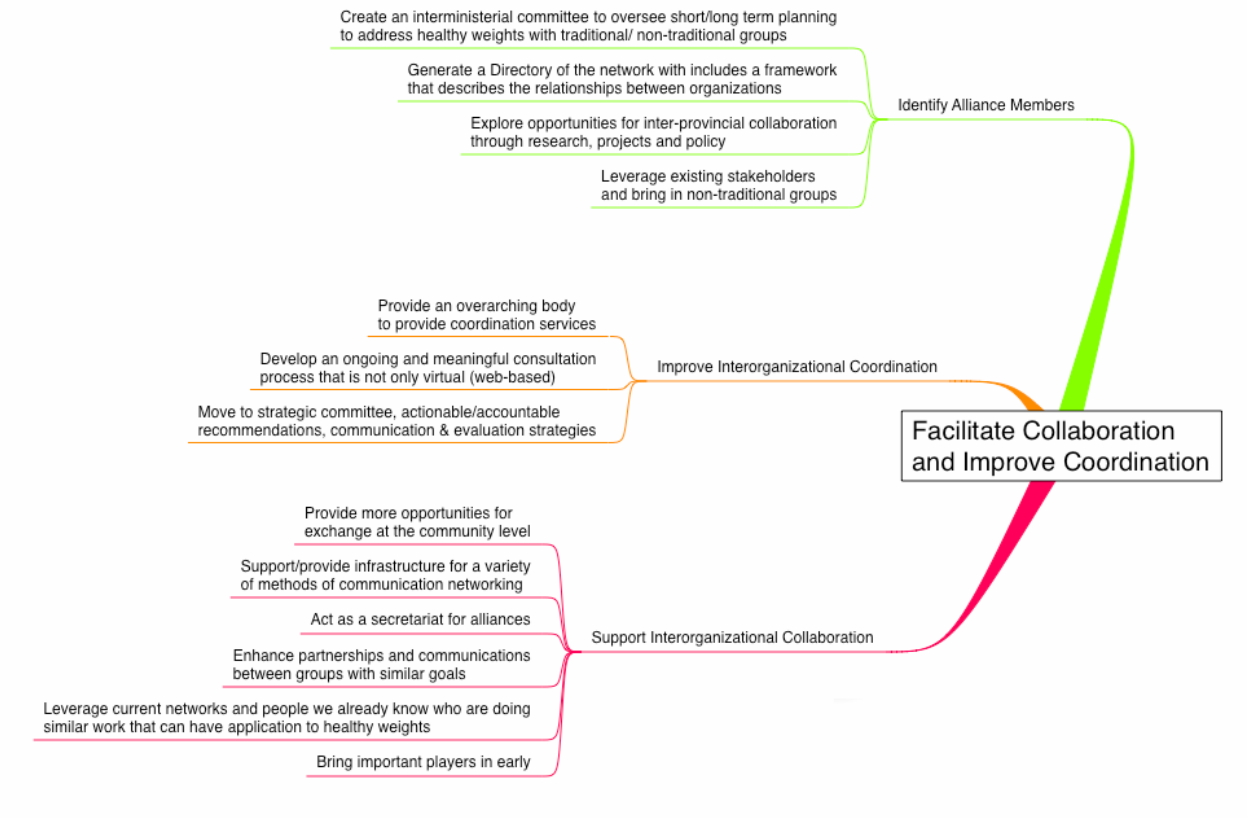
Knowledge Transfer

Knowledge transfer, in this context, is about translating findings in one discipline or area to another. In this case, there are a number of other public health challenges that can inform the field of healthy weights. One frequently discussed example is tobacco control. Many of the behavioral changes that are necessary in tobacco control were viewed as impossible at the time, but significant advances have been made in the long term. One strategy identified was the identification of best or better practices from other domains, and in other geographic and demographic circumstances. This interdisciplinary approach requires an informed and critical eye for implementation opportunities and challenges.

Messaging

Consultees identified a need for consistent messaging about nutrition across all channels of conveyance. At the individual level, the proliferation in the media of stories about the "latest" findings causes a high level of frustration among those who seek to make healthy lifestyle choices. The need for a strong partnership with media through both education about the implications of such reports, as well as playing a role in the creation of public service announcements was identified. At an inter-organizational level, there is a need to share population-level success stories, and information about organizations "doing things right". In both cases, the role of data, outcomes and results should be stressed, rather than focusing on anecdotal reports.

FACILITATE COLLABORATION AND IMPROVE COORDINATION



A strategic vision without an infrastructure to support strategic action is an empty shell. As a network of organizations, which do not report to one central authority, there is a need for collaborative solutions to processes, and this requires the availability of infrastructure resources. There are two types of networks that the participants identified. First, there exists a need to coordinate services to better coordinate interorganizational service delivery. Second, there is a need to collaborate at the strategic level.

The consultation group identified three specific areas which it believed need to be addressed. The first is alliance building, focused on institutionalizing the relationships currently within the system. The second area of intervention would be improving interagency coordination through the development of tools and processes to increase the effectiveness of such efforts. Finally, a support structure for collaboration itself is necessary for sustainable change.

Identify Alliance Members

Many of the organizations see value in bringing additional resources into the domain of the problem, but are concerned about legitimacy. For example, several participants spoke of the need for engaging industry in efforts, yet one consultee railed against the presence of a representative from Weight Watchers. On one hand, the network recognized the need for industry partners; on the other hand, they were ill at ease with their inclusion. A strong interorganizational structure could legitimate membership selection criteria in ways that would meet the network's needs for some insulation from feedback associated with industry participation. Alliances that span throughout the province, and at the interprovincial and federal levels, are seen as vital to ensure that practice is informed by analysis beyond the province's borders.

Improve Interorganizational Coordination

The consultation group recognized the value of aligning existing actions across organizations, to create synergy. Specifically, the participants would like to see the creation of ongoing and

meaningful consultation that is not solely Web-based, but would likely include a Web component. The consultees recognized the additional costs associated with face-to-face meetings, but believe that they are necessary for meaningful interaction. By leveraging this increased coordination, the healthy weights community, as a whole, can move toward a more accountable strategic structure.

Support for Interorganizational Collaboration

The current interorganizational climate is a weak one. Without an organization to act as a convener, the network does not have sufficient energy to create another initiative outside of current efforts. In fact, many of the attendees raised a concern that this process would result in yet another network that can get no work done because of the conflicting messages of individual organizations. Efforts focusing on existing infrastructure should engage the important players early in the process, to ensure that they are able to add value from the beginning.

CONSULTATION EVALUATIONS

Q1: Would you have voluntarily chosen to invest the time in this consultative process?

Data from the survey indicates a relatively strong agreement that the consultative process was valuable for the participants. As the primary *a priori* focus of the evaluation, we believe that the consultation was well-received by the participants, and the overall program addressed a fundamental need of the attendees to have some forum for discussing the challenging problem of healthy weights.

Mean	3.88
Standard Error	0.18
Median	4
Mode	4
Standard Deviation	1.05
Minimum	1
Maximum	5
Answer Count	33

A number of participants cited the role of the consultation in providing an opportunity for increased networking and interaction. A secondary issue was the ability of organizations to use this venue as a means to become part of the larger process. Many felt that the material presented has been discussed before in other forums and cautioned that process outcomes should not confuse expert opinion and evidence.

Narrative Comments from Participants (verbatim)

- Yes, great networking plus good content throughout the day.
- Great networking opportunity and to feed into process.
- Yes, I felt it was valuable. In fact I would be interested in an ongoing process of knowledge.
- I did not hear or learn anything today that I haven't been hearing for the last 20 years – so no.
- I did not learn much for the time invested. Found the tendency towards encouraging opinion as a form of evidence frustrating.
- Time and travel issues may have kept me from participating.
- Opportunity to have my organization's perspective heard/contribute to this important topic.
- Made connections. Increased awareness for our organization's work.
- Did not find the AM so valuable. Had heard most of it before. Thought the PLA exercises were great.
- I did voluntarily choose to invest time
- Will wait to see the outcome.

Q2: Have you made valuable contacts at this meeting?

This question had the highest rating, indicating that the forum added value by providing ample opportunity for each of the participants to engage with their larger community. The consultation allowed several organizations to move outside of their day-to-day demands, and created an opportunity to focus on making healthy weights efforts more effective.

Mean	4.06
Standard Error	0.18
Median	4
Mode	5
Standard Deviation	1.07
Minimum	1
Maximum	5
Answer Count	34

One respondent specifically commented on the opportunity to interact with non-traditional partners. Such a comment is often grounded in an organization's understanding of "appropriate" partners in a given effort. This raises a particular role for PHSA in identifying those interested in leveraging resources that looks "outside the box". For example, the inclusion of Weight Watchers was raised in comment to one of the facilitators as a fantastic example of creating public-private partnerships on an issue of public health. Public-private partnerships can sometimes focus on those private organizations viewed as being "part of the problem". Including representatives from the convenience/fast food industry is a particularly cogent example of that phenomenon. In contrast, organizations like Weight Watchers are for-profit organizations that share an end-state goal with government and NGO players in the healthy weights movement. Opportunities for including these kinds of partners may be an important strategy for leveraging efforts.

Narrative Comments from Participants

- Met new people as well as re-connecting with people I know.
- Met folks I have corresponded with and new people/organizations I had only heard of.
- Most participants tend to be only interested in connecting with people they already know.
- Can't identify any made at this point in time.
- Excellent. Many more people to network with for Benefit of Health promotion influence on change.
- Most definitely.
- Yes. Especially with those who are non-traditional partners.
- The networking introduction session was very helpful.
- Getting together always results in more connections and information that helps.

***Q3:* Do you have a better understanding of the healthy weights community and its interconnectedness?**

Narrative Comments from Participants

Mean	3.47
Standard Error	0.19
Median	3
Mode	3
Standard Deviation	1.08
Minimum	1
Maximum	5
Answer Count	34

- I enjoyed the variety of activities used during this process.
- I already attend a lot of meetings and I would not say that this meeting did anything to enhance my knowledge further.
- Somewhat better appreciation of the complexity of the organizational interactions at the local /provincial level. I work more at national level.
- Much more excitement of many links and knowledge of a variety of players in community.
- Better awareness of the many groups 'involved' in the area of healthy weights.
- More time could have been spent on sharing other initiatives.
- My understanding was pretty good to sign with.

- No. Already pretty aware.
- Yes. And if this day demonstrated a need for ongoing interconnectedness.
- I am more aware of some of the organizations in BC but I am not clear on the current state of interconnectedness.
- Not fair – very connected.
- I became aware of groups I was unfamiliar with, but I was aware of the need for broad interconnectedness.

Q4: Do you have a better understanding of the role your organization currently plays in BC's healthy weights efforts, and how it fits in the larger scheme?

Mean	3.05
Standard Error	0.19
Median	3
Mode	2
Standard Deviation	1.11
Minimum	1
Maximum	5
Answer Count	33

This section represents one of the weaker areas in the evaluation. In many ways, the challenge seemed to be one of expectations. There were no structured activities around finding organizational place in the larger scheme. To economize time, some efforts to build this were removed – and with good reason. Consistent with the concern that each organization build a "sense of place", there is an associated "sense of expectation" that building that sense of place generates. In other words, when you see your organization's place in the broader scheme, you begin to create expectations from that broader scheme of what others should or should not be doing. The organizers of the consultation forum did not want to encourage unrealistic expectations amongst participants.

From another perspective, the narrative comments spoke to the need for an understanding of "the larger scheme." The analysis speaks specifically to the need for someone to act as a leader at the strategic level, and a perception that PHSA was seen as a legitimate partner in those activities.

Narrative Comments from Participants

- Not really.
- No, I don't think we gleaned any info about what the 'larger scheme' is.
- No.
- Great, but still – input to wider strategy – need to have provincial overall strategy at multiple levels to build structure and sustainability.
- Some idea of how to go forward came up.
- My organization could/should connect with some of the groups who attended.
- I believe we are ahead but now, how to integrate.
- Yes.
- Not fair – very connected.
- Neutral – I believe I understood this previously.
- Not a lot of discussion about roles.

Q5: Did today's process give you an idea of the potential for your organization to play a more effective role in the future?

By focusing on potential, our intent was to give people the connections they needed to see beyond their current vision for what a healthy weights effort could be. The evaluative comments focused on the need for clear linkages beyond the traditional efforts in nutrition and physical exercise. Participants once again identified that leadership was the key success factor to any effective planning for action. Much of the expectations are seen as ones that PHSA could act in a complementary role as facilitator and community builder.

Mean	3.27
Standard Error	0.21
Median	4
Mode	4
Standard Deviation	1.23
Minimum	1
Maximum	5
Answer Count	33

Narrative Comments from Participants

- There wasn't really a concrete opportunity to discuss this.
- Nutrition has a strong component as does P/Activity – but social issues and policy must be included.
- Our role, clinical intervention, could complement the role of PHSA and that of school programs, advocacy efforts.
- I have a good understanding of the potential; I would argue the decision makers (executive/board) perhaps need a greater understanding (applies to #4 as well).
- Yes, but…long-term commitment and funding.
- Definitely. I believe that one of the strategies needs to integrate healthy weights into other current interventions and strategies (i.e., build on what is already in place in the province).
- Sorry, already very connected to roles.

Q6: Do you have a better understanding of the roles PHSA might play in facilitating healthy weights efforts in BC?

This question speaks to one of the underlying goals of the consultation process. The consultation process was engaged in to surface consensus around what role PHSA might play in the issue of healthy weights. Participants clearly see an opportunity for PHSA to play a strategic leadership role in healthy weights. Further, the consensus on this issue was much stronger than in other evaluative questions (standard deviation = 0.79), indicating that members not only had a stronger optimistic feeling about PHSA's leadership and advocacy role on this issue, but that their collective vision was more unified on these roles.

Mean	3.78
Standard Error	0.14
Median	4
Mode	4
Standard Deviation	0.79
Minimum	2
Maximum	5
Answer Count	34

One strong message was the desire for PHSA to work as a partner through a collaborative community network model, which would include the participating organizations. While many wanted to be told what PHSA was going to do, others clearly saw the consultation process as a natural extension and expectation of the leadership role that PHSA was to play. The consultation forum created a hope for similar future engagements. Further discussions of the potential roles for PHSA distilled from the consultation are discussed elsewhere in this document.

Narrative Comments from Participants

- Yes. I am optimistic about PHSA's leadership and advocacy role.
- The potential role of PHSA – real or emerging – would have helpful upfront.
- There was quite a bit of time devoted to this.
- Seems it should have a role in supporting tools/resources for evaluation of strategies.
- Strong leadership in creating large picture strategy standards and legislation/policy for government food industry, education and worksite areas. Strong message – what is healthy diet/lifestyle communication to public.
- Not yet, except as a credible voice of advocacy and commitment and organization.
- Perhaps to bring together and coordinate the efforts of the disparate groups represented here today.
- An ongoing network (quarterly) to further discuss and share ideas.
- Yes, but the group will be in how this is operationalized, implemented.
- Yes. Think it can be a very valuable leadership role.
- A leadership role. Possibly host a SUMMIT in the next year re: the "STATE OF HEALTHY WEIGHTS IN BC".
- PHSA taking a leadership role in being a knowledge broker and to support and fund best practice with evaluation components is desperately needed.

Q7: Do you have a better understanding of the current better practices in healthy weights?

Mean	3.03
Standard Error	0.19
Median	3
Mode	3
Standard Deviation	1.11
Minimum	1
Maximum	5
Answer Count	34

There was a lot of conflict over this issue in the evaluative comments. One group perceived this question and the material it referred to in terms of "more of the same." Others seemed to think that the consultation process was an attempt to create an evidence base from expert opinion. We believe that these comments were based on a misunderstanding of the consultation process. One direct quote that deserves specific mention was, "The list of current better practices provided some insight but there were some gaps. I anticipate a better understanding will result once the compilation of all the key informant interviews." We believe that this represents the ideal outcome from consultation participants. Comments of this nature recognize that this process was a listening exercise to inform a broader effort.

There is also a second issue that the text of the comments brings to bear, specifically the role of explicit and tacit knowledge. While some view explicit knowledge as the key to effective policy implementation, there are also those who recognize the role of tacit knowledge in creating effective policy "on the ground". In such cases, these practices are simply those that have no basis in the literature but have a following in practice. PHSA can play a role in the evaluation of those kinds of efforts to determine their efficacy through data gathering and surveillance activities.

- This was a very poor synopsis of best practices and current program, but this was very badly presented.
- Opinion in not a very good source of evidence.
- Yes, clear presentation underlying own understanding.
- I think we all found that we have some work to do to come up with a concerted view of what to do.
- Was already aware of most of the practices.
- Pretty good base to begin with; excellent presentation from Kim; thanks for bringing her.

- Catalogue of best practices.
- The list of current better practices provided some insight but there were some gaps. I anticipate a better understanding will result once the compilation of all the key informant interviews.
- Already fairly grounded in research and best practice.
- Started with lots of knowledge. Waiting for the review.
- Good talk by Kim Raine.

Q8: Other Comments

Themes emerging under "other comments" highlighted possible roles for PHSA as:

1. Convener – through the establishment of a community of practice;
2. Information Disseminator – by distributing information on healthy weights;
3. Leader – through the establishment of a provincial strategic vision based on actions rather than plans.

It is of interest to note that each organization brings its biases to the exercise as well as its expertise. One wanted more researchers, another questioned the legitimacy of one of the members, several saw the opportunities for change, while others focused on the lack of immediate outcomes from the exercises. PHSA now has a responsibility to feed back into the organizations it invited, to provide leadership, or risk a loss of legitimacy on this and other issues.

Other Comments

- PHSA could play a knowledge broker role. I would value more opportunities to participate in consultations, conferences, research sessions organized by PHSA.
- Where do we go from here? Outcome?
- Very informative.
- Overall, a very disappointing day. Not well facilitated – waste of time.
- Thank you.
- Please provide handouts for presentations (e.g., Kim Raine). It makes it easier to take notes. Loved the exercise.
- Thanks for inviting my organization to attend.
- Why is Weight Watchers here?
- Thank you PHSA. This was a great start! Keep it up.
- Well done, thanks. Well organized.
- Enjoyed Kim's presentation. Look forward to getting PPT. I sincerely hope this goes somewhere and not another consultation on paper.
- Thanks very much. A very productive day. Onward and upward.
- I found the process too loose and ad hoc, which makes me skeptical of any conclusions drawn.
- It may have been helpful to have had more representation from the research community.
- Already fairly grounded in research and best practice.
- Looking forward to the summary of the meeting.

APPENDIX A: LIST OF KEY INFORMANTS FOR ENVIRONMENTAL SCAN

Cindy Anderson Manager, Prevention Services. VIHA	Dr. Wilma Arruda Director, Vancouver Island, BC Pediatric Society.	Bill Barrable BC Transplant Society
Jean Blake, Executive Director, Canadian Diabetes Association - Pacific Division.	Dr. David Bowering Chief Medical Health Officer - Northern Health Authority.	David McLean Head BCCA Cancer prevention programs, PHSA
Janice MacDonald Regional Executive Director, Dietitians of Canada, BC Region.	Dr. Carol Matusicky Executive Director - BC Council for Families	Dr. Brian O'Connor Medical Health Officer - North Shore/Garibaldi Vancouver Coastal Health Authority.
Dr. Andrew Larder Medical Health Officer Fraser Health Authority.	Trevor Hancock Medical Consultant, Prevention and Wellness Planning. Ministry of Health Services	Tracey Irwin, Manager, planning & strategic initiatives, Mental Health Services. Riverview hospital.
Rose Soneff, Nutritionist Interior Health Authority	Dr. Lorna Medd Northern Health Authority	Lisa Forster Coull Consultant, Provincial Nutritionist Ministry of Health Services.
Dr. Jean Pierre Chanoine Head of Endocrinology Department, BC Children's Hospital.	Dr. Fred Rockwell MHO, Nanaimo. Chair, BC Health Food Security Alliance.	Donna Antonishak Chair - BC Community Nutritionists Council.
Sharon Storoschuk Manager, Health promotion Heart & Stroke Foundation of BC/ Yukon.	Dr. Ryna Levy Milne Assoc Professor Agricultural Sciences, UBC	Helga Grant Weight Watchers, BC
Dr. Bill Mackie BC Medical Association. Health Promotion	Marion Lay President - 2010 Legacies Now	Barbara Kaminsky CEO, Canadian Cancer Society, BC and Yukon Division.
Heather Macdonald (PhD student) Action Schools BC!	Victoria Barr Past president, Public Health Association of BC (PHABC)	Kelly Ablog-Morrant Director, Health Education/ Pgm Services. BC Lung Assn.
Dr. Jay Wortman Pacific Regional Director, Health Canada - 1st Nations and Inuit Health Branch.	Denise Weber Health Canada BC/Yukon Region	Dr. Bob Brunham Medical Director, BC Centre for Disease Control.
Barbara Selwood. Chair, BC Baby Friendly Network	Dr. Derrick Poteryko Community Physician - Nanaimo	Dwayne McCowan, Coordinator of Diversity and Equity unit, Ministry of Education

Leslie Thompson, Coordinator for “Planning Curriculum,” Ministry of Education	Bryna Kopelow, Program Team Manager, Action Schools! BC	Cathleen Kneen, Coordinator BC Food Systems Network.
Helen Lutz Nutritionist – Interior Health	Laurie Rilkoff Human Resources staff member City of Kamloops	Linda Kydd Coordinator, Lifestyle Incentive Program BC Credit Union Central
Janet Crowe Corporate Wellness Mgr. TELUS		

APPENDIX B: DATABASE SEARCH TERMS

First Order Search Terms	Second Order Search Terms	Third Order Search Terms
Obesity	“best practic:”	“public health”
“healthy weight:”	“better practic:”	“health promotion”
“physical activit:”	polic:	“health education”
exercis:	legislation	“primary prevention”
“physical fitness”	regulat:	“preventive health services”
“physical education”	program:	preventi:
Nutrition	intervention:	“community development”
Diet	project:	education
“eating behav:”	coalition:	prophyla:
“food habits”	curricul:	“population health”
	strateg:	
	education:	
	campaign:	summar:
	counsel:	review:
	media:	synthes:
	school	evaluat:
	marketing	systematic
	activit:	

APPENDIX C: RECOMMENDED READINGS

Five recent documents have provided high quality, current reviews of the literature on interventions for achieving healthy weights:

- *Overweight and Obesity in Canada: A Population Health Perspective*, was completed by Kim Raine in August 2004, for the Canadian Population Health Initiative and Canadian Institute for Health Information. Although not a systematic review, the document is well referenced and provides a comprehensive overview of individual and environmental strategies to address behavioural risk, including notations on the evidence of effectiveness of the strategies, and barriers to implementation.

- *Policy Options and Tools for the Reduction of Chronic Disease: Reducing Obesity in Canada – Synthesis Report 1.0, A Synthesis of Key Obesity-Related Research Reports and their Policy Recommendations*, written by Sue Mah for the Chronic Disease Prevention Alliance of Canada in September 2004, specifically looks at obesity interventions through a policy lens. While less comprehensive than the Raine report, it adds value by incorporating other key documents produced April-September 2004, and a focused discussion of policy options from a Canadian perspective.

- *Risk Factor Interventions: An Overview of their Effectiveness* prepared by H. Krueger & Associates Inc. for the BC Healthy Living Alliance (Krueger 2005) (publication pending) provides a comprehensive review of interventions targeting smoking, obesity and overweight, UV radiation, and occupational/environmental exposure to carcinogens.

- The US Institute of Medicine report *Preventing Childhood Obesity: Health in the Balance* (Koplan et al 2004) takes a comprehensive look at interventions specifically targeting children, from infancy through adolescence.

The Nutrition and Physical Activity Work Group, an advisory group to the CDC, has produced a guidebook for developing comprehensive programs for healthy weights:

- *Guidelines for Comprehensive Programs to Promote Healthy Eating and Physical Activity* (NUPAWG 2002) is published by Human Kinetics and is geared to policy makers and program planners. Focusing on community-based interventions and building on social capital, the book includes information on components of successful programs, funding case studies, model programs of approaches that have worked elsewhere, and contact information for individuals in charge of existing program

APPENDIX D: LIST OF KEY INFORMANTS FOR LITERATURE REVIEW

Alex Berland, Consultant

Allan Best, Senior Scientist, Vancouver Coastal Health Research Institute

Steven N. Blair, President & CEO, Cooper Institute

Margaret Cargo, Principal Investigator, Psychosocial Research Division, Douglas Hospital Research Centre / McGill University

Susan Crawford, Assistant Director, CIHR Institute of Aging

Erica DiRuggiero, Assistant Director, CIHR Institute of Population & Public Health

Lydia Drasic, Director, Provincial Primary Health Care & Population Health Strategy, Provincial Health Services Authority

Diane Finegood, Director of CIHR's Institute for Nutrition, Metabolism and Diabetes

Sue Mah, Nutrition Consultant, Nutrition Solutions

Sarah Antonia Martz, M.Sc. Candidate, UBC Faculty of Agricultural Sciences

David McLean, Head, Cancer Prevention Programs, BC Cancer Agency

John Millar, Executive Director, Population Health Surveillance & Disease Control Planning, Provincial Health Services Authority

PJ Naylor, School of Physical Education, University of Victoria

Aleck Ostry, Assistant Professor, Health Care and Epidemiology, University of British Columbia

Kim Raine, Director and Professor, Centre for Health Promotion Studies, University of Alberta

Barb Selwood, Chair, BC Baby Friendly Network

Malcolm Steinberg, Research Associate, UBC Centre for Disease Control

Gregory Taylor, Director, Disease Intervention Division, Centre for Chronic Disease Prevention and Control, Population and Public Health Branch, Health Canada

Tom Warshawski, President, BC Pediatric Society

APPENDIX E: DETAILED PROGRAM DESCRIPTION FROM ENVIRONMENTAL SCAN

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
Action Schools! BC program www.actionschoolsbc.ca	Ministry of Health Services / Ministry of Education	Initially targeted at grades 4-7 kids. Piloted in ten schools in Vancouver and Richmond, - 1100 students. Schools register voluntarily – approx 410 have now registered (target was 160). Specific target: inactive school kids	Began January 2003 as 18-month pilot project that has been continued. Provides healthy weight interventions throughout the day related to physical activity programs. Non-PE teachers getting kids to do 15 mins /day of physical activities. Plan is to incorporate six action zones: school environment (healthy choices are easy choices, support active living policy); scheduled PE (supporting goal of 150 minutes of activity per week); classroom action (creative alternative activities to support curriculum and PE classes); family and community (fosters partnerships); extracurricular (engages teachers, kids and parents before and after school); school spirit Wider rollout of program planned: 2004: 10% of BC Schools, 2005: 40% of schools, 2006: 70% of schools. Currently developing a K-3 component for this program. Pilot planned for 2005, wide rollout in 2006. Within three years program will involve k-9 students across BC. A nutrition component is being developed for the program for	Evaluation: baseline data collected on 1100 kids. 500 have agreed to more invasive lab tests (blood testing, etc). Evaluation results: kids in action schools are significantly more active (by 48 minutes/wk) Baseline data showed "startling" extent of problem in schools. Longitudinal evaluation of pilot school group continuing. Nov. 24 announcement of $14.5M funding for program for next 5 years. Program to be rolled out across province. Nov. 24 – Premier mentioned new policy initiative to remove junk food from schools within 4.5 years.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			Sept. 2005.	
BC Baby Friendly initiative	Health Canada, Registered Nurses Association of BC, provincial health authorities	Through newsletter, website (www.bcbabyfriendly.ca) public nurses. Target: Mothers of infants	Network of health professionals who promote and support breast-feeding for the health and well being of infants.	BC has highest initiation of breast-feeding in Canada. Currently collecting provincial data on breast-feeding women leaving hospital to determine patterns, e.g. how long they continue. Latest recommendation is for breast-feeding to continue until 6 mos.
BC Central Credit Union – employee wellness program	BC Central Credit Union	Workplace BCCCU's 300 employees	Provides credits for employees who participate in activities related to health, well-being, etc. with focus on fitness. 15 minutes of jogging = one point. Meeting weight loss goal = 100 points. Cash awards given for employees reaching specific point levels. Honour-based program was designed for BCCCU by MEDI-Sys and is administered by F/T employee.	Program has been running for over seven years. About 200 of BCCCU's 300 employees are involved each year.
BC Coalition for Health Promotion	VIHA, possibly others	Community groups & front line professionals involved in health promotion.	Goals: To nurture environment where health promotion is valued. To help coordinate health promotion in BC. To provide health promo resources for communities.	Ongoing
BC Food Systems	Community-based	Province-wide. Targeted at	Goal: To make it easier for people/families to eat healthy	Ongoing

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
Network	network	families	food. Network supports: Good Food Box (volunteer co-op program where people pay $10 for a box of locally grown fresh food.); Community gardens; Community kitchens	
BC Healthy Living Alliance	PHSA / Ministry of Health Services / Canadian Cancer Society/ BCCA/ Diabetes /	Families & individuals province-wide	Program to build capacity for promotion of healthy living (healthy eating/ activity)	Ongoing
BCMA Council on Health Promotion – childhood obesity initiative	BCMA	Doctors offices. Target: parents of young children across BC	Initiative is designed to have physicians influence parent decisions about nutrition and physical activity. Goal is to support parents to support healthy families through improved diets and increased activity. Information to be disseminated through newsletters, Parent Advisory Councils, physicians.	Program is currently being developed as special project for 2005, to be launched later this year. BCMA is also seeking change in funding formula for physicians so they can be paid for counselling patients about healthy lifestyle changes.
Beauty From Inside Out" program	Province-wide / offered through schools	Grades 6/7 (esp. girls)	Health professionals brought into schools to discuss healthy lifestyles.	Rotates through different schools each year. Evaluation available
Be Real program	Vancouver Coastal Health Authority / BC Ministry of Children & Family Dev.	11-19 year olds with eating disorders (North Shore only?)	Early intervention program. Kids who answer "yes" to items on questionnaire are admitted to support program for consultations with dietician, mental health worker. 1	1 year funding for program.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			afternoon/ week.	
Better Choices program	BCCA / Rotary Club	For teachers of school kids in K-Gr. 4	BCCA helped develop school curriculum and provide training for teachers about healthy living issues. Includes training materials for teachers.	Available for province-wide use.
Children Teaching Children	BC Children's Hospital	Children at school, K – Gr. 3.	A train-the-trainer – buddy support approach. Teachers train kids in grades 4-6 about healthy lifestyle, healthy eating, exercise. These kids are then buddied with kids in target age group as role models and instructors.	One-year pilot program, tested at two schools on Sunshine Coast. Results now being evaluated.
Cooking for Your Life	Canadian Diabetes Assn. / VCH / schools	Lower Mainland Target: People interested in healthier living – ½ have diabetes. 45-65 average age.	Promoted through continuing education flyers and offered in conjunction with schools. Classes of 15 – 18 participants. Working with VCH to adapt this program for use with kids in schools. Cooking classes in schools.	Evaluation of program shows effective behaviour change – only program of its type with documented success. Looking for more partners to expand program. Funding available from Health Canada for more pilot programs.
Cooking Fun for Families program	Interior Health	Families throughout BC interior	Showing families how to cook nutritious meals	New program, based on program from Vancouver. Funding issue
Cost of Eating Report	Nutritionists council	BC families	Examines cost of feeding families based on healthy food basket. Assesses ability of low-income	Ongoing.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			families to eat healthy food.	
DASH – Directorate of Agencies for School Health	Broad-based partnership, includes Ministry of Children & Families	BC's school children	Not-for-profit started in 1983. Mandate is to promote a comprehensive school health framework in BC. Promotes healthy nutrition policies and provides resources. Website – www.dashbc.org	Ongoing.
Dial-A-Dietician	BC NurseLine	People across BC	Provides free nutrition advice and info as part of BC NurseLine program. 10% of NurseLine calls relate to obesity.	Ongoing
Eat Well, Play Well	Dieticians of Canada	Families & kids across Canada	A web-based national initiative to promote healthy eating/active living during the school years. www.dieticians.ca/child/ provides resources for teachers, health intermediaries, parents and caregivers.	Ongoing
Food Security Programs	Community groups, BC Public Health Alliance on Food Security, Food Democracy Network (www.fooddemocracynetwork.org)	Various communities in BC. Target: low-income families.	Goal: Ensuring affordable access for all to healthy food.	Initiatives ongoing in Oliver, Nanaimo, Kamloops. Community kitchens, good food box programs. Kamloops is only community in Canada where food bank usage has dropped over past 10 years. Vancouver is establishing a Food Policy Council.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
Golf for Your Life (golfforyourlife.com)	BC Lung Assn.	Kids aged 9 – 14, Lower Mainland	Summer program (free) for 40 kids with asthma (many overweight) to learn how to play golf during 7 sessions. Goals: Asthma education, self management skills, improved fitness, self esteem. Learn doable activity.	Pilot project, funded by insurance company.
Healthy Eating Active Living (HEAL) program	Northern Health Authority / Interior Health Authority	Northern British Columbians	"Grassroots" initiative in northern communities started in 2001. Focus on prevention of Type 2 diabetes through promotion of healthy eating and physical activity. In first year nine skill development workshops were used to build capacity in various communities. 19 demo projects in 15 communities (e.g. community gardens, community kitchens, hiking trails) have received "seed money" (funding assistance). Now pursuing school food policies. HEAL newsletter goes to 300 people in 45 communities. HEAL website gets 50K hits/yr. Initiative is aimed at systemic factors leading to obesity and diabetes.	Program has won awards and was mentioned in BC auditor general's report. Evaluation information available from Marianne – director of pgm.
Action Now! BC	Ministry of Health Services / 2010 Legacies Now	All British Columbians – but with major emphasis on kids 0-5 years.	Supports BC Baby, Success by Six and Action Schools BC! programs. Action Now! BC is pushing Vancouver to become first city in Canada to accept Canadian Medical Assn's challenge of	Recently launched.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			increasing physical activity levels by 20%.	
Healthy cities programs	Community-based	Targeted at community members	A number of BC communities have municipal programs to encourage healthier lifestyles (e.g. Abbottsford, Kamloops, Surrey, North Vancouver) E.g. Surrey received an award from WHO in 2002 for their plan launched in 1999 to reduce the number of inactive people in Surrey by 10% by 2005; there are five major components: increasing awareness, changing physical activity behaviour, supportive environments, partnerships, and employee wellness.	Varies by municipality.
Healthy eating workshops for teachers	BC Dairy Foundation / community nutritionists	Teachers of K - Gr.10 kids	Workshops and resources nutrition	Ongoing.
Healthy Start for Life	Health Canada / Dieticians of Canada & nine collaborating agencies	Kids aged 2-5	National program to promote development of healthy eating and activity patterns for preschool kids	Funded by Health Canada. Status/delivery in BC unknown.
Healthy Work program	Ministry of Health Services	MoHS is pilot site for program to promote health among employees	Various interventions in the workplace to encourage healthy living, including stairwell beautification (encourage walking up stairs), CN Tower challenge (climbing stairways equivalent to CN Tower over 5 days), etc.	1-year pilot project with post-program evaluation planned.
Heart Smart Fun Kits	Heart & Stroke	Distributed by teachers of grades	Resources that help families to become more active, ideas for	Ongoing

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
for families	Foundation	K-6 to kids and their families	activities, calendar for keeping track of activities, goal-setting	
Heart Smart Kids	Heart & Stroke Foundation of BC/Yukon	Teachers of grades K – 6 kids in BC	Program started in 1996 – part of personal planning curriculum in schools. Focused on physical activity, healthy eating, smoking. Focus on prevention.	Has trained 5,500 teachers. Evaluation: random control trial – pre and post test group that received intervention, one month later both knowledge of and attitudes toward subjects related to program objectives showed significant increase. On-going evaluation: teachers use the program and like it.
Heart Smart Kids – aboriginal focus	Heart & Stroke Foundation of BC/Yukon	Teachers of grades 4– 6 aboriginal kids in BC	Developed from above program with special focus on aboriginal kids and reflecting aboriginal values and culture. Materials include a student activity book and an accompanying Educator's Guide book, and a poster intended for use by families. Educator's Guide was sent to all BC First Nations schools.	Teachers are required to attend two-hour training workshop. So far 65 teachers and community nurses have been trained.
Hearts at Work	Healthy Hearts Society of BC	Offered through community centres. Target: People at risk of heart disease.	Incentive program for people to learn about risk factors that contribute to heart disease.	Ongoing.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
Jump rope for Heart / Hoops for Heart	Heart & Stroke Foundation of BC/Yukon – coordinated by H&S area offices – school officers go to schools.	School-aged kids in BC	Annual program. Encourages kids to jump rope and play basketball as a fundraising activity, but with physical activity benefits for kids	Ongoing
Knowledge Network Interactive (Program & Policy)	BC Dairy Foundation, community nutrition council, Ministry of Health Services, dieticians	School kids in BC	Working on implementing healthy food policies in schools across province. Hosted forums involving high school students about healthy eating.	Funding for program has continued, all school districts in interior are becoming part of program.
Make Children First	Ministry of Children & Family Development / Human Early Learning Project (UBC-based partnership) / community groups	Various communities around BC. Target: at risk pre-school kids.	Emphasis on healthy eating and healthy activity. Public health nurses work with schools. Work on educational activities, strong school teams. Program associated with work of Dr. Clyde Hertzman.	Ongoing
Miscellaneous programs	Supported at community level	Targeted at general population.	Examples: Walking School Bus, I Walk Program, Safe Routes, Walk to School programs, Bike to Work Week.	
Move More, Eat Well	BC Pediatric Society /Community health professionals	Targeted at kids and their parents – through schools in Nanaimo and Ladysmith	Program has 20 schools participating. Has a newsletter and provides specially designed activities for kids in school.	Still going on. Informal evaluations were positive.
Nutrition Month (March)	Dieticians of Canada	Families across Canada	2004 focus was on kids “Eat Well, Live Well” theme. Dieticians visited schools, handed out nutrition info, encouraged schools to become involved. Website also provides	Ongoing

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			information. (www.dieticians.ca) on nutrition, FAQs, etc.	
Physicians Promoting Healthy Living	Ministry of Health Services	BC-wide physicians, families and individual patients	Program provides physicians with resources to promote healthy living among patients.	Not very active at present.
School Health Forum Jan 14, 2005	Ministry of Health Services / Ministry of Education	School trustees, teachers, health professionals, researchers, NGOs, etc. (75 people attending)	To discuss framework for promoting health in schools – acting on recommendation from prov health officer's 2003 report, An Ounce of Prevention. Framework will be used to help guide policy.	
Shape Down program	Community nutritionists	Overweight teens	Ten-week lifestyle program of family counselling with kids and parents seen separately. Developed in the US. Cost is about $2K/family.	Started this year in Vancouver by nutritionist Arlene Cristal. Preliminary evaluation was positive. US evaluations have been very positive.
Shop Smart Tour	Save-On Foods / community nutritionists	Adults, people with diabetes, kids	Educational pgm offers free tour through grocery store led by nutritionist. Various group tour options, including for diabetes, heart health, women's health, weight management, young families, etc.	
Success by Six program	United Way /Credit Unions/ community orgs	Children under six years in selected BC communities	Developing capacity in communities for ensuring coordination of healthy living	Running for 18 months

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			programs targeted at young families	
TELUS Employee wellness	TELUS	Workplace TELUS employees across BC and Canada (25K in total)	TELUS has invested in fitness facilities at larger worksites; offers nutrition counselling, healthy food choices promoted in company cafeterias, supports health/wellness of employee through a variety of initiatives. Program is seen as providing business advantages, e.g. employee retention.	Corporate wellness manager position created in 2003. Company's investment in employee wellness is aligned with its strategy to "invest in internal capabilities."
Train the trainer	Childcare licensing body – Infant Development program (IDP) / community nutritionists	Pre-school providers across BC	Voluntary sessions to make sure pre-school providers are offering healthy meals	Ongoing
Unprogrammed activity by community nutritionists	Interior Health Authority	Interior BC Mothers & infants	3 main goals: healthy growth/ development, food security, chronic disease prevention. Support for maternal birth weight, support breast-feeding for 6 months to 2 years. Refer parents to websites for info: www.healthystart.com, www.missionnutrition.ca	No evaluation/ surveillance
Waddell Project	PHSA/ BC Cancer Agency	Interior BC (Kootenays & N. Okanagan). All ages.	Supports community action on 4 issues: tobacco, weight, exercise, diet. Goal is to de-normalize poor lifestyle patterns through peer influence and community approach, e.g. programs like walking school bus, walking Wednesdays,	Ongoing.

Activity/Program	Sponsoring Organization	Setting & Target population	Description	Status
			fitness in the parks, sunwise.	
Weight Watchers BC (Also: Curves, TOPS Take-Off-Pounds-Sensibly, SureSlim Wellness clinic, Jenny Craig, etc.)	Weight Watchers	Overweight people aged 18-54	Weekly meetings and support groups provided for people seeking to lose weight. Program helps people achieve personal weight-loss goal and supports life-style change to sustain ideal weight.	Privately offered program started over 40 years ago. Effectiveness of Weight Watchers program has been proven through clinical trials.

REFERENCES

Birch LL. “Acquisition of Food Preferences and Eating Patterns in Children” in Eating Disorders and Obesity: A Comprehensive Handbook, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

Best A, Tenkasi RV, Trochim WK, et al. “Systemic Transformational Change in Tobacco Control: An overview of the Initiative on the Study and Implementation of Systems (ISIS)” in Innovations in Health Care: A Reality Check, eds. A. Casebeer, A Harrison, AL Mark. (London: Palgrave MacMillan, in print.

Booth SL, Sallis JF, Ritenbaugh C, Hill JO, Birch LL, Frank LD, Glanz K, Himmelgreen DA, Mudd M, Popkin BM, Rickard KA. St Jeor S, Hays NP. Environmental and Societal Factors Affect Food Choice and Physical Activity: Rationale, Influences, and Leverage Points. *Nutrition Reviews* 59, Suppl. 3 (2001): pp. 57.65.

Brunton, G, Harden A, Rees R, Kavanagh J, Oliver S, Oakley A. (2003). Children and Physical Activity: A Systematic Review of Barriers and Facilitators. London: EPPICentre, Social Science Research Unit, Institute of Education, University of London.

Campbell, K, Waters E, O’Meara S et al. Interventions for preventing obesity in children. *Cochrane Database of Systematic Reviews.* 2004.

Canadian Tobacco Control Research Initiative. Better Solutions for Complex Problems: Description of a Model To Support Better Practices for Health, (2002) http://www.ctcri.ca/files/BETTER%20SOLUTIONS%2012_02.pdf

Cargo M. Personal communication. December 8, 2004.

Centers for Disease Control and Prevention. Increasing physical activity: a report on recommendations for the Task Force on Community Preventive Services. MMWR 2001;50 (No. RR-18).

Dewey KG. Is breastfeeding protective against child obesity? J. Hum Lact 19 (2003): pp. 9-18.

Epstein LH, Valoski A, Wing RR, McCurley J. Ten-Year Follow-up of Behavioral, Family-Based Treatment for Obese Children. Journal of the American Medical Association 264, 19 (1990): pp. 2519.2523.

Fewtrell MS. The long-term benefits of having been breast-fed. *Current Pediatrics* 14 (2004): pp. 97-103.

Finkelstein E, French S, Variyam JN, Haines PS. Pros and Cons of Proposed Interventions to Promote Healthy Eating. *American Journal of Preventive Medicine,* 27, 3S (2004); pp.163–171.

Foreyt JP. “Weight Loss Programs for Minority Populations” in *Eating Disorders and Obesity: A Comprehensive Handbook*, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

French SA, Jeffery RW, Story M, Breitlow KK, Baxter JS, Hannan P, Snyder MP. Pricing and Promotion Effects on Low-fat Vending Snack Purchases: The CHIPS study. *American Journal of Public Health* 91, 1 (2001): pp. 112.117.

Fulton J, et al Interventions for Weight Loss and Weight Gain Prevention Among Youth: Current Issues. *Sports Med* 31, 3 (2001).

Health Canada. *Exclusive Breastfeeding Duration – 2004 Health Canada Recommendation.* Publication No. 4824. Her Majesty the Queen in Right of Canada (2004)

Heber D. “Meal Replacements in the Treatment of Obesity” in Eating Disorders and Obesity: A Comprehensive Handbook, 2nd ed, eds. K. D. Brownwell, C. G. Fairburn. (New York: The Guilford Press, 2002.)

Heshka S, Anderson JW, Atkinson RL, et al. Weight loss with self-help compared with a structured commercial program: a randomized trial. JAMA 289 14 (2003): pp. 1792-1798.

Hillsdon M, Foster C, Naidoo B, et al. The Effectiveness of Public Health Interventions for Increasing Physical Activity. NHS Health Development Agency. 2004.

James J, Thomas P, Cavan D, Kerr D. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomised controlled trial. British Medical Journal. doi:10.1136/bmj.38077.458438.EE (published 27 April 2004)

Kahn E B, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, The Effectiveness of Interventions to Increase Physical Activity: A Systematic Review. *American Journal of Preventive Medicine* 22, Suppl. 4 (2002): pp. 73.107.

Kastarinen MJ, Nissinen AM, Vartiainen EA, Jousilahti PJ, Korhonen HJ, Puska PM, Tuomilehto. Blood pressure levels and obesity trends in hypertensive and normotensive Finnish population from 1982 to 1997. *Journal of Hypertension*.18, 3 (Mar. 2000): pp. 255-62.

Kendall PRW. An Ounce of Prevention A Public Health Rationale for the School as a Setting for Health Promotion: A Report of the Provincial Health Officer. Victoria: Office of the Provincial Health Officer, B.C. Ministry of Health Planning. (2003).

Koplan JP, Liverman CT, Kraak VI, eds. Preventing Childhood Obesity: Health in the Balance. Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Koplan JP, Liverman CT, Kraak VI, eds. *Preventing Childhood Obesity: Health in the Balance.* Institute of Medicine of the National Academies. Washington, DC: The National Academies Press. (2004).

Krueger H, & Associates Inc. Risk Factor Interventions: An Overview of their Effectiveness, report prepared for BC Healthy Living Alliance. (2005, publication pending).

Lederman SA, Akabas SR, Moore BJ, et al. Summary of the Presentations at the Conference on Preventing Childhood Obesity, December 8, 2003. *Pediatrics* 114 (2004): pp. 1146-1173.

Lopiano DA. Modern history of women in sports. Twenty-five years of Title IX. Clin Sports Med 19, 2 (2000): pp. 163-73.

Matthiessen J, Fagt S, Biltoft-Jensen A et al. Size makes a difference *Public Health Nutrition* 6, 1 (2003): pp. 65-72.

McLaren L, Shiell A, Ghali L, Lorenzetti D, Rock M, Huculak S. Are Integrated Approaches Working to Promote healthy Weights and Prevent Obesity and Chronic Disease? A Review and Synthesis of the Literature with Suggestions and Recommendations for Policy and Decision Makers. Centre for Health & Policy Studies, Dept Community health Sciences, University of Calgary. August 2004.

McTigue KM, Harris R, Hemphill B, Lux L, Sutton S, Bunton AJ et al. Screening for Obesity in Adults: Recommendations and Rationale. Annals of Internal Medicine 139[11], 930-932. 12-2-2003. American College of Physicians.

Meeting of the Society of Behavioral Medicine Policy Committee, February 18, 2005. Personal notes.

Mercer SL, Green LW, Rosenthal AC, Husten CG, Khan LK, Dietz WH. Possible lessons from the tobacco experience for obesity control. Am J Clin Nutr 2003; 77(4):1073S-11082.

Muller MJ, Asbeck I, Mast M, Langnase K, Grund A. Prevention of Obesity – more than an intention. Concept and fresh results of the Kiel Obesity Prevention Study (KOPS). *International Journal of Obesity & Related Metabolic Disorders* 15, Suppl. 1 (2001): pp. 66-74.

Nissinen A, Kastarinen M, Tuomilehto J. Community control of hypertension: experiences from Finland. Journal of Human Hypertension 18 (2004): pp. 553-556.

Raine K. Overweight and Obesity in Canada: A Population Health Perspective. Canadian Institute for Health Information. 2004.

Reger B, Wootan MG, Booth-Butterfield S. A comparison of different approaches to promote community-wide dietary change. American Journal of Preventive Medicine 18, 4 (2000): pp. 271-5.

Robinson TN. Reducing children's television viewing to prevent obesity: A randomized controlled trial. *J Am Med Assoc* 282, 16 (1999): pp. 1561-1567.

Rowley KG, Daniel M, Skinner K, Skinner M, et al. Effectiveness of a community-directed 'healthy lifestyle' program in a remote Australian aboriginal community. Australian and New Zealand Journal of Public Health 24, 2 (Apr 2000): pp. 136-144.

Rychetnik L, Frommer M, Hawe P, Shiell A. Criteria for evaluating evidence on public health interventions. J Epidemiol Community Health 2002; 56(2):119-127.

Schmitz KH, Jeffery RW. Prevention of Obesity, in *Handbook of Obesity Treatment*, eds. T. A. Wadden and A. J. Stunkard. (New York: The Guilford Press, 2002).

Snyder LB, Hamilton MA, Mitchell EW, et al. A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States. Journal of Health Communication 9, Suppl 1 (2004): pp. 71-96.

The Community Nutritionists Council of BC. Making the Connection – Food Security and Public Health. June 2004.

Thomas J, Sutcliffe K, Harden A, Oakley A, Oliver S, Rees R, Brunton G, Kavanagh J. Children and Healthy Eating: A systematic review of barriers and facilitators. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. (2003).

Tobin M. Physical activity counselling by health professionals. Canadian College of Family Physicians of Canada. 2000. Retrieved: December 15, 2004. From: http://www.cfpc.ca/English/cfpc/programs/patient%20care/physical%20activity/research/physical%20activity/default.asp?s=1.

Toronto Food Policy Council, Toronto Food Policy Council [on-line]. Retrieved: December 2002. From: www.ryerson.ca/~foodsec/food-policy.

Tudor-Locke CE, Myers AM, Bell RC, Harris SB, Rodger WN. Preliminary Outcome of the First Step Program: A Daily Physical Activity Intervention for Individuals With Type 2 Diabetes. *Patient Education and Counseling* 47, 1 (2002): pp. 23-28.

University of York. The prevention and treatment of childhood obesity. *Effective Health Care* 7, 6 (2002).

Veugelers PJ, Fitzgerald AL. Effectiveness of School Programs in Preventing Childhood Obesity: A Multilevel Comparison. *American Journal of Public Health* 95, 3 (2005): pp.432-435.

Whitaker RC. Predicting preschooler obesity at birth: The role of maternal obesity in early pregnancy. *Pediatrics* 114 1 (2004): pp. e29-36.

World Health Organization. *WHO Technical Report Series No 894. Obesity: Preventing and managing the global epidemic*. 2000.

Wortman J. Personal communication. December 2, 2004