



CORE

Public Health Functions for BC

**Model Core Program Paper:
Healthy Living**

BC Health Authorities

**Population Health and Wellness
BC Ministry of Health**

April 2007

This Model Core Program Paper was prepared by a working group consisting of representatives of the BC Ministry of Health and BC's health authorities.

This paper is based upon a review of evidence and best practice, and as such may include practices that are not currently implemented throughout the public health system in BC. This is to be expected, as the purpose of the Core Public Health Functions process—consistent with the quality improvement approach widely adopted in private and public sector organizations across Canada—is to put in place a performance improvement process to move the public health system in BC towards evidence-based best practice. Where warranted, health authorities will develop public performance improvement plans with feasible performance targets and will develop and implement performance improvement strategies that move them towards best practice in the program component areas identified in this Model Program Paper.

This Model Program Paper should be read in conjunction with the accompanying review of evidence and best practice.

Model Core Program Paper approved by:

Core Functions Steering Committee (April 2007)

Population Health and Wellness, BC Ministry of Health (April 2007)

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EXECUTIVE SUMMARY

This paper identifies the core elements of a healthy living program that is provided by British Columbia health authorities. It is intended, as part of the BC Core Functions in Public Health initiative, to reflect evidence-based practice and support continuous performance improvement.

A working group of representatives from the Ministry of Health, the health authorities and the academic community worked together in the development of the paper. They agreed that the overall goals of the healthy living core program should be to increase the adoption of healthy behaviours by British Columbians. The objectives are to:

- Increase systemic supports for healthy living choices, in an integrated manner, at the individual, family, community and regional level.
- Prevent and reduce high-risk behaviours, including tobacco use, unhealthy eating and physical inactivity, particularly among young people and vulnerable individuals and groups.
- Enhance surveillance, monitoring and evaluation of health living trends and interventions.

Positive lifestyle behaviour choices, when adopted early in life and maintained throughout life, can have beneficial impacts on the development of the fetus and infant; increase resistance to infection; reduce the risk of a wide variety of chronic diseases; improve recovery from disease and injury; improve overall mental health; and have a wide variety of other beneficial effects (Ministry of Health [MOH], Population Health and Wellness [PHW], 2005).

Three lifestyle behaviours—a smoke-free lifestyle, healthy eating and physical activity—have been identified as a priority as they are closely linked and together represent the major components for preventing chronic diseases in British Columbia at this time. However, other lifestyle behaviours may also be considered as part of this core program, depending upon experiences in different locations of the province and new challenges that arise in the future (e.g., high levels of alcohol consumption could be considered within this context).

A number of elements are of key importance in effective healthy living programs:

- Integration – Integration and/or collaboration among healthy living initiatives and other health programs to support a multidisciplinary, comprehensive approach.
- Modeling – Health authorities will need to model healthy living policies and practices within their own organizations as a prerequisite to advocating for improved policies in other organizations.
- Advocacy – Advocating for healthy public policy (as discussed in *A Framework for Core Function in Public Health*).
- Consideration of the determinants of health – Determinants such as income, education, family structure, gender, culture, ethnicity and environmental conditions, play a key role

in determining lifestyles and behaviours, and should be considered in needs assessment, planning and delivery.

- Capacity building and community development – Enhancing the skills and abilities of individuals, organizations and communities to address healthy living issues and concerns.
- Public education, awareness and social marketing – Providing skill-based knowledge to the public as well as influencing attitudes and behaviours.
- Surveillance, monitoring and evaluation – Assessing initiatives, tracking of overall trends and strengthening research evidence will support ongoing improvement.

In addition, strategies for each of the three lifestyle behaviours are presented. These are based upon findings from an extensive evidence review and the consensus views of experts in the field. In summary, these include:

Tobacco Control Strategies

Although tobacco control strategies traditionally focus on three components (prevention, protection and cessation), prevention activities are described in a manner consistent with the health promotion terminology used in other healthy living strategies, to enable effective integration and collaboration within the healthy living program.

- Advocacy and Public Policy
 - Modeling tobacco-free policies and practices within the health authority.
 - Advocating for collaborative community-wide measures to ban tobacco use in youth settings by municipal, recreation and school organizations.
 - Encouraging and promoting the adoption of smoke-free environments by organizations, as well as by individuals in their homes and vehicles.
- Public Education, Awareness and Social Marketing
 - Reducing youth access to tobacco through programs that educate retailers and decrease social sources of tobacco.
 - Providing educational resources to health professionals and other sectors to assist them in integrating a tobacco-free lifestyle.
 - Highlighting prevention messages to youth in all public information initiatives.
- Community Capacity Building
 - Building community capacity through educating, training and encouraging health professionals and other stakeholders to integrate a continuum of cessation interventions into their programs, with priority on brief, individual cessation counselling.

- Providing leadership and participating in strategic linkages and partnerships with community stakeholders (educators, employers, etc.) to provide cessation programs that place a priority on youth cessation, and those populations with high smoking rates.
- Prevention (Enforcement)
 - Reducing youth access through programs that ensure compliance with sales-to-minors legislation.
- Tobacco Cessation (Clinical Services)
 - Delivering tailored cessation programs directly to smokers, based on a range of needs (such as support for brief intervention counselling, group programs or provision of low-cost or free nicotine replacement therapy for heavy users).
 - Promoting access to provincial telephone- and web-based cessation resources.

Healthy Eating Strategies

- Advocacy and Public Policy
 - Promoting the development of healthy community food and nutrition policies.
 - Advocating for enhanced nutritional support policies (e.g., breastfeeding policies, school food guidelines) for specific priority populations such as Aboriginal, limited income and immigrant populations, and seniors in care.
- Public Education, Awareness and Social Marketing
 - Providing educational resources, training and protocols for other health professionals to assist them in promoting healthy eating.
 - Developing targeted initiatives for priority populations.
- Community Capacity Building
 - Providing leadership, and collaborating with key stakeholders and community¹ coalitions to develop comprehensive community action plans.
 - Educating and encouraging local organizations to develop and implement community healthy eating strategies and access to healthy food.
 - Facilitating collaboration with major sectors (e.g., school system, workplaces, food industry, etc.) to enhance support for healthy eating.

¹ The term “community” is generally self-defined by participants, and may refer to a group of people united by common characteristics, such as geography, shared interests, values, experiences, traditions, age, gender, race, ethnicity, etc. It may also be viewed as a system or sector that has distinct characteristics such as schools or health care systems.

- Programs and Services (Interventions)
 - Providing individualized and group programs targeted to at-risk individuals and families, (e.g., at-risk infants, chronic disease patients, those with low socio-economic status, those with disordered eating, etc.).
 - Integrating healthy eating strategies into existing programs and services for at-risk populations.

Physical Activity Strategies

- Advocacy and Public Policy
 - Modeling healthy physical activity within the health authority.
 - Promoting physical activity policies and programs in the health authority and in other sectors (e.g., local governments, schools, private sector).
 - Advocating with municipal planners to incorporate neighbourhood plans that encourage physical activity.
- Public Education, Awareness and Social Marketing
 - Providing educational resources for professional groups and other sectors to assist them in integrating physical activity into their programs.
 - Developing targeted educational strategies for specific priority populations.
- Community Capacity Building
 - Building community capacity by educating, training and encouraging local organizations to develop a comprehensive community-wide needs assessment and action plan.
- Programs and Services (Interventions)
 - Assisting the health authority and other employers to develop effective employee wellness programs that integrate physical activity.
 - Collaborating with community organizations in delivering targeted programs to priority groups (e.g., those with chronic disease, child and youth with special needs, Aboriginal people, seniors, etc.).

The integration of strategies for tobacco control, healthy eating and physical activity contributes to an effective healthy living program. While the form of integration will vary according to the unique health risks, determinants and resources in each region, there are a number of common organizing approaches that may be utilized. These can include:

- Organizational Strategies – Internal organizational structures can support integration at management and planning levels, as well as at program delivery levels. Similarly, an

integrated approach in collaborative planning with external organizations will be necessary to ensure integration at a community level.

- Target Populations – Healthy living strategies can be integrated into public health programs already serving existing target groups. For example, tobacco control, healthy eating and physical activity strategies could be integrated into reproductive health programs, child development programs, mental health programs and seniors’ programs. Priority target populations may include:
 - Pregnant women.
 - Children.
 - People with mental disorders and addictions.
 - Aboriginal people.
 - People with limited incomes and low education.
 - Those from diverse ethnic and cultural backgrounds.
 - Seniors.
- Key Settings – Integration within key settings has also been shown to be an effective approach to organizing healthy living programs. Settings may include: home, workplaces, schools and communities.

The monitoring, surveillance and evaluation of healthy living initiatives is an additional important component to this program. Monitoring and surveillance assists in clarifying the prevalence and trends in key healthy living behaviours, and in identifying the needs and priorities of high-risk populations.

1.0 OVERVIEW/SETTING THE CONTEXT

As demonstrated in recent Canadian reports, public health needs to be better structured and resourced, in order to improve the health of the population. The Framework for Core Functions in Public Health is a component of that renewal in British Columbia. It defines and describes the core public health activities of a comprehensive public health system. This policy framework was accepted in 2005 by the Ministry of Health and the health authorities.

Implementation of core functions will establish a performance improvement process for public health developed in collaboration between the Ministry of Health, the health authorities and the public health field. This process will result in greater consistency of public health services across the province, increased capacity and quality of public health services and improved health of the population. To ensure collaboration and feasibility of implementation, the oversight of the development of the performance improvement process is managed by a Provincial Steering Committee with membership representing all health authorities and the ministry.

What are core programs? They are long-term programs representing public health services that health authorities provide in a renewed and modern public health system. Core programs are organized to improve health; they can be assessed ultimately in terms of improved health and well-being and/or reductions in disease, disability and injury. In total 21 programs have been identified as “core programs”, of which healthy living is but one. Many of the programs are interconnected and thus require collaboration and coordination between them.

In a “model core program paper”, each program will have clear goals, measurable objectives and an evidentiary base that shows it can improve people’s health and prevent disease disability, and/or injury. Programs will be supported through the identification of best practices and national and international benchmarks (where such benchmarks exist). Each paper will be informed by: an evidence paper; other key documents related to the program area; and by key expert input obtained through a working group with representatives from each health authority and the Ministry of Health.

The Provincial Steering Committee has indicated that an approved model core program paper constitutes a model of good practice, while recognizing it will need to be modified to meet local context and needs. The performance measures identified are appropriate indicators of program performance that could be used in a performance improvement plan. The model core program paper is a resource to health authorities that they can use to develop their core program through a performance improvement planning process. While health authorities must deliver all core programs, how each is provided is the responsibility of the health authority, as are the performance improvement targets they set for themselves.

It is envisioned that the performance improvement process will be implemented over several years. During that time the process will contribute to and benefit from related initiatives in public health infrastructure, health information and surveillance systems, workforce competence assessment and development and research and evaluation at the regional, provincial and national levels. Over time these improvement processes and related activities will improve the quality and

strengthen the capacity of public health programs, and this in turn will contribute to improving the health of the population.

1.1 An Introduction to This Paper

This model core program paper for healthy living is one element in an overall public health performance improvement strategy developed by the Ministry of Health in collaboration with provincial health authorities and experts in the field of public health. It builds on previous work from a number of sources. This model core program paper focuses on a range of behaviours and lifestyles that are fundamental to healthy living. While this area may include a wide range of behaviours, the program currently focuses on three primary strategies: tobacco control, healthy eating and physical activity.

In March 2005, the Ministry of Health released a document entitled *A Framework for Core Functions in Public Health*. This document was prepared in consultation with representatives of health authorities and experts in the field of public health. It identifies the core programs that must be provided by health authorities, including healthy living, and the public health strategies that can be used to implement these core programs. It provides an overall framework for the development of this document.

Two evidence reviews were also prepared:

- *Evidence Review: Healthy Living – Physical Activity & Healthy Eating*, prepared by Hollander Analytical Services, for the Ministry of Health, Population Health and Wellness (2006).
- *Evidence Review: Healthy Living – Tobacco Control*, prepared by the Centre for Addictions Research of British Columbia, for the Ministry of Health, Population Health and Wellness (2006).

These provided a foundation for documenting the evidentiary base, best practices and some key indicators for the program.

A Working Group for Healthy Living—including three sub-groups (on physical activity, healthy eating and tobacco control)—formed of experts in the field from the Ministry of Health, the health authorities and the academic community, was established in the spring of 2006. The group provided guidance and direction in the development of the model core program paper during meetings in the spring and summer, 2006, and as well as through telephone and e-mail discussions.

1.2 Introduction to Healthy Living

Healthy living is vital, not only to the normal growth and development of children, but also to diminishing the many risk factors that have been shown to have a high relationship to common chronic diseases. As chronic diseases are now the greatest burden on the health care system, it is essential that the public health system become an increasingly strong proponent for healthy living.

Healthy living involves a wide range of interconnected factors. In the past, prevention and treatment in clinical settings have been the focus of interventions, but researchers now agree that social and environmental factors need to be understood and modified for effective prevention. Accordingly, the core program focuses on a population health² approach, including socio-economic status and the various environments that influence healthy living, such as community and physical environment, workplace, school and home environments.

The social and economic determinants of health are important considerations. Research is clear that factors such as income and education level play a major role in influencing healthy lifestyles (Raine, 2004). For example, income level can affect a family's living conditions, including their access to sufficient healthy food (Dietitians of Canada, 2002). Income is also linked to the level of physical activity, as those in the lowest income levels tend to be less active than those with higher incomes (Statistics Canada, Canadian Community Health Survey 2.2 – custom tabulation, as cited in Canadian Institute for Health Information [CIHI], 2006). There are also links between education level and obesity among Canadian men and women (women and men with secondary education or less, are more likely to be obese than adults with post-secondary education) (Tjepkema, 2005).

A wide range of lifestyle behaviours and risk factors highlight the need for effective healthy living strategies. Four important forms of personal health practices that promote overall health and well-being and prevent a wide range of diseases, disabilities and injuries include a healthy diet, a physically active way of life, not smoking and drinking in moderation (MOH, PHW, 2005).

The following three lifestyle behaviours are highlighted in this paper as together, they represent the major contributors to chronic disease in the province:

1.2.1 Tobacco Use

- Smoking is the number one cause of preventable death and disease in British Columbia. It accounts for 6,000 deaths per year (Bridge & Turpin, 2004).
- The smoking rate in British Columbia is 18.9 per cent (2005/2006) for those age 15 years and older (BC Stats, 2006). There is considerable variation in smoking rates across health authorities and among sub-populations: the highest smoking rates are in Northern Health Authority, at 27 per cent, in Interior Health Authority at 22 per cent³; and among Aboriginal peoples (53 per cent) (BC Stats, 2005). Analysis indicates that provincial smoking rates may not continue to decline at the pace experienced in previous years⁴.

² Population health, as defined by the Public Health Agency of Canada (n.d.) “is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.”

³ Smoking rates are taken from BC Stats, Community Health Education and Social Services Survey, based on a 12-month rolling average (BC Share file data).

⁴ Ministry of Health, Tobacco Control Branch.

1.2.2 Eating Behaviours

- British Columbians fall substantially short of good nutrition standards (Ministry of Health Services, 2004)—only 40 per cent of adults eat the recommended level of fruits and vegetables (2005) (Statistics Canada, 2005, CANSIM Table).
- Approximately 5.4 per cent of British Columbians report sometimes or often not having enough food to eat due to lack of money (2005) (Statistics Canada, 2005, CANSIM Table).
- Aboriginal people are at high-risk for food insecurity and poor nutritional status. They suffer from higher than average rates of obesity, diabetes and micronutrient deficiencies, all of which are at least partially diet-related (Riches et al., 2004).
- Diet is recognized as an important contributor in a number of preventable chronic diseases, including cardiovascular disease, Type 2 diabetes and cancer (Ministry of Health Planning, 2003).
- Obesity among Canadian adults, 18 years and over, increased from 14 per cent in 1978/1979 to 23 per cent in 2004 (Tjepkema, 2005). 18 per cent of Canadian children, 2 to 17 years, were obese in 2004. The number of Canadian adults who are overweight and obese has more than doubled in the last 20 years, while rates for children have nearly tripled (CIHI, 2004).

1.2.3 Physical Inactivity

- In 2005, 40 per cent (40.1 per cent) of British Columbians were physically inactive (get little or no exercise): 39 per cent males, 41.1 per cent females (Statistics Canada, 2005).
- Almost half (47 per cent) of British Columbians are not active enough to achieve the health benefits of regular activity (MOH, 2006).
- More than half (58 per cent) of BC youth aged 12 to 19, and about half (48 per cent) of children and youth aged 5 to 17 years, were not active enough for optimal growth and development (the optimal level for growth and development is equivalent to 90 minutes/day of physical activity) (MOH, 2006).

There are substantial social and economic costs that result from the many health issues that arise from these lifestyles. For example:

- The cost of smoking to the BC economy is enormous, at \$1.5 billion a year for medical costs and productively losses (Bridge & Turpin, 2004).
- Obesity costs the BC economy an estimated \$730-\$830 million a year (2000) (Colman, 2001).⁵ If present trends continue, this increasing burden will have a dramatic effect on the future of the health system and society as a whole (Select Standing Committee on Health, 2004).

⁵ This estimate is low as it was based on old rankings for body mass and self-reported data; i.e., 29 per cent overweight and obesity was estimated, compared to the latest findings of 55–60 per cent (Tjepkema, 2005).

- Physical inactivity costs the British Columbia health care system \$211 million a year in direct costs (hospital, physician, drug, institutional and other costs), equal to 1.8 per cent of total government spending on these services. An additional \$362 million each year is estimated for indirect productivity losses due to premature death and disability. The total economic burden of physical inactivity in British Columbia is estimated at \$573 million annually (Colman & Walker, 2004).

Finally, it should be noted that the core program reflects the research that has been conducted in the field of healthy living. While the research literature covers some topics extensively, others have received little attention. For example, there are many studies on obesity and overweight and relatively few in areas such as workplace wellness and effective interventions for sub-groups (such as low-income families, Aboriginal communities and other cultural groups). Innovative approaches are being implemented in some areas, but evaluations on the outcomes have not yet been conducted. As a result, it will be necessary for planners to consider emerging “promising practices” and new studies as they appear in the literature.

2.0 SCOPE AND AUTHORITY FOR THE HEALTHY LIVING PROGRAM

In order to effectively implement a healthy living core program, there must be clarity on the roles of the Ministry of Health, the health authorities and other ministries and levels of government involved in this area.

2.1 Federal Role and Responsibilities

On the federal level, Health Canada is actively involved in promoting healthy living through a variety of policy guidelines, communication strategies, research initiatives, discussion papers and pilot project funding arrangements. These initiatives encourage the development of population health models and expanded healthy living policies and programs across the country. As well, Health Canada and Statistics Canada both play an active role in health assessment and surveillance.

2.2 Provincial Role and Responsibilities

The Ministry of Health has three major roles and responsibilities:

- Providing overall stewardship of the health care system in British Columbia, including conducting strategic interventions with health authorities to ensure continuation of the delivery of efficient, appropriate, equitable and effective health services to British Columbians.
- Working with the health authorities to provide accountability to government, the public and the recipients of health services.
- Providing resources to health authorities to enable them to deliver health-related services to British Columbians.

More specifically, with respect to healthy living, the Ministry of Health plays a role in:

- Coordinating healthy living policy, program and evaluation initiatives across the province; i.e., the ministry provides a population health website (Ministry of Health, Population Health and Wellness) and telehealth resources to support healthy living programs.
- Enhancing collaboration, coordination and communications with coalitions in physical activity, healthy eating and tobacco control.
- Encouraging progress toward provincial healthy living goals through coordination of initiatives with other ministries and with the federal government.

There is also a provincial role in surveillance with both the Ministry of Health and the Provincial Health Services Authority (PHSA) supporting the collection, analysis and dissemination of information. PHSA also coordinates and facilitates specialized services and programs within the health authorities. With respect to healthy living, PHSA's role includes knowledge synthesis, transfer and exchange.

A number of other provincial ministries are actively involved in supporting healthy living initiatives through collaborative approaches with the Ministry of Health, and in many cases, with health authorities on a regional and community level. For example, the Ministry of Education supports programs to increase physical activity among school children, as well as policies to support healthier food choices in schools. Similarly, the Ministry of Children and Family Development, Ministry of Agriculture and Lands, and WorkSafe BC all work closely with the health sector in supporting healthy living programs. In addition, partnerships with non-governmental organizations (e.g. Heart and Stroke Foundation, community agencies and the business community) contribute much to these initiatives.

2.3 Health Authorities Role and Responsibilities

The role of health authorities is to identify and assess the health needs in the region, to deliver health services (excluding physician services and BC Pharmacare) to British Columbians in an efficient, appropriate, equitable and effective manner, and to monitor and evaluate the services that are provided. With respect to healthy living, health authorities are responsible for:

- Providing coordination and leadership in the development and implementation of healthy living policies and programs within the region.
- Collaborating across sectors in community capacity building to develop and implement community-based healthy living policies and programs (targeting and involving key stakeholders, decision-makers and key community settings).
- Providing public education, awareness and social marketing to enable healthy living attitudes and behaviours.
- Identifying at-risk population groups in the region and facilitating the development of appropriate programs/supports to respond to their needs.
- Implementing province-wide priorities that may be identified by government from time to time.
- Monitoring, surveillance and evaluation, and knowledge transfer of successful outcomes and best practices.

2.4 Legislation and Policy Direction

The overall legislative and policy direction for a healthy living program is derived from:

- The following provincial acts and regulations: *Health Act*; *Food Safety Act*; Occupational Health and Safety Regulation (WorkSafe BC); *Tobacco Sales Act* and Regulation.
- Federal legislation and policies such as the *Food and Drug Act* and Regulations, the Federal Tobacco Control Strategy, *Canada's Food Guide to Healthy Eating*, *Canada's Physical Activity Guide to Healthy Active Living*, the Pan Canadian Healthy Living Strategy and the Canadian Sport Policy.
- *A Framework for Core Functions in Public Health* (March 2005).

- Ministry of Health Tobacco Control Strategy.
- The ActNow BC strategic planning documents.
- Other government policies on nutrition, physical activity and tobacco control, including: BC Sports Policy, *Guidelines for Food and Beverage Sales in BC Schools* (2005), the Ministry of Education's physical education and other curriculum standards and municipal smoke-free by-laws.
- Other specific policies/priorities that may be established by the health authority, the Ministry of Health or the provincial government.

3.0 PRINCIPLES

The following principles can guide the direction of policies, procedures and operating practices for healthy living strategies. These include:

- A comprehensive and integrated approach using a wide range of strategies.
- Collaborative measures based on cross-sectoral partnerships and capacity building.
- Evidence-based policies and practices.
- Innovation based on emerging approaches and practices.
- A determinants approach considering individual, environmental and social factors that influence health outcomes.
- Sustainable interventions with a long-term planning approach.
- Effective communications, highlighting public awareness and social marketing to create a supportive environment for healthy living.

4.0 GOALS AND OBJECTIVES

The overall goal of the healthy living program is to optimize health by increasing the adoption of healthy behaviours by British Columbians. Specific objectives for achieving this goal are:

- To increase systemic support for healthy living choices, in an integrated manner, at the individual, family, community and regional level.
- To prevent and reduce high-risk behaviours, including tobacco use, unhealthy eating and physical inactivity, particularly among young people and vulnerable individuals and groups.
- To enhance surveillance, monitoring and evaluation of healthy living trends and interventions.

A wide range of lifestyle behaviours could be addressed within the healthy living programs, depending upon the experiences in different locations of the province and new challenges that arise in the future (e.g., high levels of alcohol consumption could be considered within this context). However, three lifestyle behaviours—a smoke-free lifestyle, healthy eating and physical activity—have been identified as a priority, as they are closely linked and together represent the major components for preventing chronic diseases in British Columbia at this time.

Positive lifestyle behaviour choices, when adopted early in life and maintained throughout life, can have beneficial impacts on growth and development in the early years; increase resistance to infection; reduce the risk of a wide variety of chronic diseases; improve recovery from disease and injury; improve overall mental health; and have a wide variety of other beneficial effects (MOH, PHW, 2005).

5.0 MAIN COMPONENTS AND SUPPORTING EVIDENCE

5.1 Main Components

The core components of a healthy living program are the development and implementation of:

- Tobacco control strategies.
- Healthy eating strategies.
- Physical activity strategies.
- Integration of healthy living strategies.
- Healthy living surveillance and monitoring strategies.

A common, integrated “healthy living” approach among these strategies is necessary to reflect that healthy living issues and their determining factors often overlap. Organizing an integrative approach among healthy living strategies is discussed in Section 9, with a focus on regional and community organizational initiatives, key regional and community target populations and key community settings. It is also important to keep in mind that “a focus on the broader determinants of health (i.e., income, education gender, race, etc.) is important, because these ... play a role in shaping and constraining people’s ability to make healthy choices” (MOH, PHW, 2005).

5.2 Key Elements

A primary role for health authorities is to model healthy living policies and practices within their own organization. Establishing exemplary healthy living initiatives within the health authority itself is a prerequisite for advocating for improved policies in other organizations. Health authorities will need to be role models within their region, recognizing that they can only take direct action in their own organization and can only exert “influence” on other organizations.

The key elements for effective planning and delivery of a healthy living program are discussed in the sections that follow. More specific descriptions of each of these elements/activities are encompassed under each of the individual strategies for tobacco control, healthy eating and physical activity. The key elements are:

- Integration – Integration and/or collaboration among the various segments of the healthy living program, as well as with other public health programs and health services, is necessary to support a multidisciplinary, comprehensive approach (integration is discussed further in Section 9).
- Advocacy – Health authorities have a role in advocating for healthy public policy. The advocacy role, as described in *A Framework for Core Functions in Public Health*, involves public health leaders at the local level providing advice, on behalf of the public, to their communities in matters of public health, reporting on the health of their communities and playing a leadership role in initiatives that address the determinants of health in their communities.

- Modeling – Modeling healthy living initiatives within the health authority itself is a first step, and a prerequisite, to advocating for healthy living policies and practices in other sectors and organizations within the health region.
- Consideration of the determinants of health – Determinants such as income, education level, family structure, gender, culture, ethnicity and environmental conditions, play a key role in determining lifestyles and behaviours, and should be considered in program needs assessment, planning, prioritization and delivery;
- Capacity building – “Capacity building for the purpose of improving health is about enhancing the ability of an individual, organization or a community to address their health issues and concerns” (Ontario Prevention Clearinghouse, 2002). Community capacity building “is a set of knowledge, skills, participation, leadership and other resources needed by community groups to effectively address local issues and concerns. It increases the range of people, organizations and communities who are able to address health and social problems” (NSW Health Department, 2001).
- Public education, awareness and social marketing – Public education and awareness can provide skill-based knowledge, while social marketing, using marketing principles and techniques, has the potential to influence the way people think and behave and thereby generate social change. These are key elements in health promotion, although the approach will necessarily differ based on the respective goals and evidence base for each strategy.

It is recognized that implementation of the healthy living program activities described in this paper may require additional resources, and health authorities will need to determine their priorities and which of these to implement within their available resources.

6.0 TOBACCO CONTROL STRATEGIES

In addition to the overall healthy living goals and objectives, the goal of tobacco control strategies is to decrease the use of tobacco⁶. The specific objectives are:

- To prevent youth and young adults from starting to use tobacco.
- To protect the public from exposure to second-hand tobacco smoke.
- To increase cessation of smoking and use of tobacco products.

6.1 Components

It is widely recognized that advances in tobacco control are achieved through broad-based, comprehensive and integrated strategies (MOH, PHW, 2006b). The primary components are widely accepted to be: tobacco prevention, protection and cessation. This continuum forms a comprehensive strategy that is a central feature of the Federal/Provincial/Territorial strategy *New Directions for Tobacco Control*, and BC's *Tobacco Control Strategy*.

While it is acknowledged that prevention, protection and cessation represent the framework within which tobacco control professionals manage their activities, it is considered necessary for the purposes of integration to take a common approach where there are parallel elements with other healthy living strategies. Health promotion, including advocacy/public policy, public education/awareness/social marketing and community capacity building, are common components in all healthy living strategies, and are thus described in a consistent manner. Tobacco prevention and tobacco cessation are unique to tobacco control and this terminology is maintained to reflect customary descriptions in the tobacco control field.

The main components of a comprehensive tobacco control strategy are:

- Advocacy and public policy.
- Public education, awareness and social marketing.
- Community capacity building.
- Prevention (enforcement).
- Cessation (clinical services).

The key linkages for tobacco control strategies within core public health programs and within health authorities include: chronic disease prevention, reproductive health, healthy development, mental health and addictions, healthy communities, dental health, healthy schools, primary care and acute care. A key element in a tobacco control strategy also includes integration (discussed in Section 9) with other healthy living initiatives, particularly healthy eating and physical activity.

⁶ The term "tobacco" refers to cigarette and cigar smoking, as well as smokeless tobacco products such as chewing tobacco, pinch and snuff. The rates of usage and the burden of health may vary depending upon the form of tobacco used.

The following initiatives listed under each component are not meant to be comprehensive but are illustrative of the range of initiatives recommended for health authorities.

6.1.1 Advocacy and Public Policy

- Modeling tobacco-free policies and practices within the health authority (a prerequisite for advocating for smoke-free environments in other organizations).
- Advocating for collaborative community-wide measures to ban tobacco use in youth settings by municipal, sports, recreational, school and child/youth organizations.
- Encouraging and promoting the adoption of smoke-free environments by municipal authorities, workplaces, schools, recreation and sports organizations (e.g., “tobacco-free” sports) and other community organizations, as well as by individuals in their homes and automobiles.

These initiatives are supported by research studies that have found

smoking bans in public places ... are a critical element to comprehensive tobacco control, standing as the most effective means for reducing second-hand smoke exposure, and as key tools in preventing tobacco use, decreasing consumption, reducing serious health-related hospital admissions, increasing quit attempts, and boosting overall cessation rates. Smoke-free restrictions have proven beneficial to both adults and youth and appear to have the most powerful effects when implemented (on a voluntary basis) by individuals in their own homes (MOH, PHW, 2006b).

6.1.2 Public Education, Awareness and Social Marketing

- Reducing youth access to tobacco through programs that educate tobacco retailers and decrease social sources of tobacco.
- Providing educational resources to health professionals and stakeholders in other sectors to assist them in supporting tobacco-free lifestyles in their programs.
- Highlighting prevention messages targeted toward youth in all public information and awareness initiatives on tobacco control.
- Developing social marketing campaigns to shift attitudes and behaviours to prevent the use of tobacco among high-risk populations such as youth and young adults.

Researchers studying tobacco education, awareness and social marketing have concluded that

effective communications and media engagement around tobacco control issues (prevention, protection, and cessation) are understood to be among the most critical elements in comprehensive tobacco control given their role in deterring smoking uptake, stimulating quit attempts, reducing tobacco consumption and increasing cessation rates. While the research has tended to concentrate on large-scale, state-wide media delivered through high-profile channels like television,

regional-level initiatives that provide consistent, ongoing, evidence-based messaging through multiple communications veins, also have potential for success (MOH, PHW, 2006b).

6.1.3 Community Capacity Building

- Building community capacity through educating, training and encouraging health professionals both within and outside the health authority structure to integrate cessation interventions, including brief cessation counseling, into their programs (e.g., acute care, public health, mental health\addictions, dental health professionals, pharmacists, professionals with a specific focus on Aboriginal health and alternative health care professionals such as massage therapists and chiropractors).
- Providing leadership and participating in strategic linkages and partnerships with community stakeholders (educators, employers, etc.) to assess community assets and needs and develop and implement cessation programs that place a priority on youth cessation, and on those populations with high smoking rates.

6.1.4 Prevention (Enforcement)

- Reducing youth access to tobacco through programs that ensure compliance with sales-to-minors legislation.
- Enforcing public policy and legislative measures, including compliance with smoke-free policies.

Evidence for smoking bans in public places is noted in the discussion of advocacy and public policies (Section 6.1.1).

6.1.5 Tobacco Cessation (Clinical Services)

- Promoting access to provincial telephone- and web-based cessation resources such as QuitNow.
- Delivering tailored cessation programs directly to smokers, based on a range of needs (e.g., support for brief intervention counseling, group programs, or provision of low-cost or free nicotine replacement therapy (NRT) for heavy users of tobacco) (Lancaster et al., 2000; United States Preventive Services Task Force, 1996).

A review of research evidence states that “the most effective cessation strategies include brief physician advice, individual counseling, telephone counseling services, nicotine replacement therapies, self-help materials and web-based quit programs” (United States Preventive Services Task Force, 1996). The literature notes that “nicotine replacement therapy has been found to be effective in doubling quit rates” (Lancaster et al., 2000), and that telephone-based cessation support programs, when blended with additional interventions (either educational or therapeutic), have proven successful in increasing cessation rates (Hopkins et al., 2001).

6.2 Tobacco Control Strategies – Supporting Evidence

The above strategies are based on an extensive review of the literature in this field. Because of widespread focus on the harmful effects of tobacco use and continuing efforts to address this problem in many jurisdictions nationally and internationally, there is a rich field of research on effective measures. It is also a rapidly evolving field of study, as new interventions are developed and evaluated. The following references provide substantive information to support these initiatives:

- *New Directions for Tobacco Control in Canada: A National Strategy*, by Health Canada. (1999).
- *Best Practices for Comprehensive Tobacco Control Programs—August 1999*, by the Centers for Disease Control and Prevention (1999).
- *Review of Canadian Population Surveys for Use as Indicators of Tobacco Behaviours: A Review for Decision-Makers, Evaluators, and Researchers*, by T.T. Copley, & C. Lovato (2005).

7.0 HEALTHY EATING STRATEGIES

The goal of healthy eating strategies is to increase the number of people eating healthy food, of optimal quantity and quality to enhance health. The specific objectives are:

- To optimize nutritional health, with a view to promoting healthy growth and development in the early years, and preventing chronic diseases in later years.
- To prevent poor eating behaviours, particularly among populations at risk of poor nutrition.

7.1 Components

The major components are:

- Advocacy and public policy.
- Public education, awareness and social marketing.
- Community capacity building.
- Programs and services (interventions).

The key core program linkages for collaborating and integrating healthy eating strategies include: chronic disease prevention, reproductive health, healthy development, food security, food safety, healthy communities, dental health and primary care. Food security in particular is a key element as it is a prerequisite to healthy eating. Collaboration with these core programs is essential for effective delivery of healthy eating initiatives.

The following initiatives listed under each component are not meant to be comprehensive but are illustrative of the range of initiatives recommended for consideration and implementation by health authorities.

7.1.1 Advocacy and Public Policy

Advocacy involves influencing healthy food and nutrition policy at the community, regional, provincial and/or federal levels:

- Modeling healthy eating policies and programs within the health authority, including healthy food services and vending machines for patients/clients, and employee wellness programs that integrate healthy eating.
- Advocating with key decision-makers within the health authority for policies and strategies to effectively address nutritional issues, both for the health authority population and health authority staff.
- Promoting and encouraging the development and implementation of healthy community food/nutrition policies and action plans, in collaboration with municipalities, local food councils, school districts, food distributors, employers and other major sectors and stakeholders.

- Advocating for enhanced nutritional support policies for specific at-risk groups, such as breastfeeding policies for infants (e.g., WHO/UNICEF “Baby Friendly Initiative”), school food and beverage guidelines, hospital/health care centre food and beverage guidelines, workplace food and beverage guidelines, nutritional policies for Aboriginal and rural/remote populations, people in care, etc.
- Encouraging and assisting health care professionals throughout the region to play an advocacy role in promoting effective dietary policies and strategies.

Research evidence indicates that “an integrated approach is needed that combines education with structural measures, environmental and social changes that reinforce behavioural change, and involvement with the food industry” (Schuit et al., 2000). Dr. Kim Raine, a prominent Canadian nutrition researcher also stresses that a policy approach is necessary to address these issues (Raine, 2004).

7.1.2 Public Education, Awareness and Social Marketing

Initiatives that inform and promote healthy eating include:

- Providing educational resources, training materials, workshops and protocols for health professionals to encourage and assist them in promoting healthy eating as part of their client/patient services (e.g., primary care providers, public health nurses, mental health workers, etc.), and to guide them when referral to nutritional counselling by registered dietitians is required.
- Collaborating with major sectors (e.g., workplaces, the school system, child care centres, families, recreation centres, restaurants, supermarkets, etc.) to enhance their knowledge and ability to support healthy eating, healthy weights and healthy body image for people of all ages.
- Providing targeted educational resources, communication materials, workshops and special events for priority populations to improve their personal knowledge and skills (e.g., breastfeeding clinics for mothers, workshops on healthy food purchasing/preparation for low-income families, one-on-one counseling, promotion of Dial-a-Dietitian, etc.).
- Developing social marketing campaigns to shift attitudes and behaviours, which will increase healthy eating practices among the population. A coordinated approach with the federal and provincial government, other health authorities and/or the private sector would enhance the opportunity for effective social marketing strategies.

A number of studies point to shifts in attitude as a result of educational interventions. The importance of including the home and family environment has been identified in promoting healthy weights; for example, children who purchased lunch at school were 39 per cent more likely to be overweight than children who brought lunch from home, and children who ate supper at home with their families at least three times a week were less likely to be overweight (Veugelers & Fitzgerald, 2005). Parental involvement with children in learning about healthy eating, including parental workshops and newsletters, enhanced the effectiveness of promotion programs targeted to children (City of Hamilton, n.d.).

7.1.3 Community Capacity Building

Capacity building initiatives to enhance the community's skills and ability to support health eating include:

- Providing leadership and collaborating with key stakeholders, including community coalitions, to develop and implement comprehensive community needs assessment and action plans to enhance healthy eating practices and improved access to healthy foods.
- Educating, encouraging and working with local organizations, including municipal councils, schools, parent/teacher groups, agricultural groups, recreational centres and health care groups, to develop and implement strategies that support healthy eating and improved access to safe, nutritious, locally grown foods in all neighbourhoods.
- Facilitating collaboration between local food producers and food suppliers, restaurants, food vendors, schools and other community settings to increase access to quality, locally grown food.
- Promoting best practices and providing information, data, technical advice and other assistance to assist communities in the planning and development process.

These initiatives are supported by the evidence and views of many experts in the field. For example, the Integrated Pan-Canadian Healthy Living Strategy (covering healthy eating and physical activity), approved by Federal/Provincial/Territorial Ministers of Health, notes that intersectoral groups are a means “to ensure greater alignment, coordination and direction for all sectors” and to provide a forum for multiple players to work collaboratively to address common risk factors (Intersectoral Healthy Living Network, 2005).

7.1.4 Programs and Services (Interventions)

Healthy eating interventions may be provided directly by the health authorities or, indirectly through collaboration with partners and community organizations. Effective approaches include:

- Partnering with community food councils, and/or with a wide range of sectors to coordinate the provision of healthy eating programs in multiple settings on the community level, including schools, workplaces and community and recreational centres.
- Providing individualized and group healthy eating programs for at-risk individuals and families (tailored to their unique needs, priorities and circumstances), based on the optimal intervention points in the life cycle to mitigate the potential for chronic disease, including,
 - Parenting skill-building programs that focus on appropriate healthy food choices, and food preparation skills.
 - Healthy eating for infants (including in utero, breastfeeding to two years and beyond), toddlers and preschoolers.
 - Healthy eating for children and youth in school, and in the home environment, including programs for those who are overweight or obese.

- Family-based programs and resources for those at risk of developing disordered eating, including overeating, anorexia and bulimia.
- Initiatives for groups with high-risk factors for poor nutrition (e.g., those with low socio-economic status, multicultural groups, those with mental or physical disabilities, etc.).
- Aboriginal programs that recognize unique social, cultural and economic needs.
- Nutrition for seniors living in the community.
- Collaborating in the provision of food security programs, such as cooking and skill-building programs, good food boxes, community and rooftop gardens, etc.
- Assisting other organizations in the region to develop effective workplace wellness programs that integrate healthy eating.

The research stresses the need for “multiple approaches... that engage a wide range of community partners in a comprehensive approach that addresses the physical, social, political, and cultural environments affecting community members” (Centers for Disease Control and Prevention [CDC], 2003). School health programs that are coordinated with communities, families and other stakeholders are recommended to support healthy eating and physical activity among children and youth (CDC, 2005b).

7.2 Supporting Evidence

The above healthy eating strategies are based on an extensive review of the literature. The following major references are included to provide a review of the wide-ranging research and evolving analysis in this field:

- Food, Health and Well-Being in British Columbia. *Provincial Health Officer’s Annual Report 2005*, by the Provincial Health Officer (2006).
- *Improving the Health of Canadians: Promoting Healthy Weights*, by the Canadian Institute for Health Information. (2006).
- *Evidence Review: Healthy Living – Physical Activity & Healthy Eating*, prepared by Hollander Analytical Services, for the Ministry of Health, Population Health and Wellness (2006).
- *Prevention That Works: A Review of the Evidence Regarding the Causation and Prevention of Chronic Disease*, by the Ministry of Health Planning, Population Health and Wellness (2003).
- *Overweight and Obesity in Canada: A Population Health Perspective*, by K. Raine (2004).
- *Integrated Pan-Canadian Healthy Living Strategy*, by the Intersectoral Healthy Living Network. (2005).

8.0 PHYSICAL ACTIVITY STRATEGIES

The goal of physical activity strategies is to increase the levels of regular physical activity among the population to a level that is sufficient to achieve health benefits.⁷ The specific objectives are as follows:

- To increase physical activity among all populations to improve health and reduce chronic disease.
- To increase the level of physical activity among children and youth for optimal growth and development.

8.1 Components

The major components of a physical activity strategy are:

- Advocacy and public policy.
- Public education, awareness and social marketing/
- Community capacity building.
- Programs and services (interventions).

It will be necessary to integrate physical activity values and goals into the culture of the health authority itself. And similarly, consideration of the determinants of health and special needs of population sub-groups is essential (e.g., consideration of the different interests/barriers for women and girls and men and boys, the special needs and supports required for mental health clients, seniors, etc.).

The key program linkages for integration of physical activities are: healthy communities, chronic disease prevention, healthy development, food security, injury prevention, community/residential care, primary care and acute care.

The following initiatives listed under each component are not meant to be comprehensive, but are illustrative of the range of initiatives recommended for health authorities.

8.1.1 Advocacy and Public Policy

Important initiatives in this area are:

- Modeling healthy physical activity initiatives within the health authority as a first step to advocating with other sectors and organizations to adopt healthy physical activity policies.

⁷ The Canadian Community Health Survey defines active, moderately active or inactive physical activity based on average daily energy expenditures. Active and moderate levels are sufficient for health benefits. (Active levels are greater than 3 kcal/kg/day; moderate is 1.5–2.9 kcal/kg/day, and physical inactivity is less than 1.5 kcal/kg.day) (MOH, 2006). The level of physical activity for optimal growth and development for children and youth is 90 minutes per day (MOH, PHW, 2006a).

- Encouraging and promoting physical activity policies and programs through proposals and presentations to senior decision-makers in the health authority, municipal government, schools, private sector, etc.).
- Promoting positive public support for physical activity initiatives and programs through contacts with the media, newspapers, and other public forums.
- Advocating with municipal councils and planners to integrate designs for safe, healthy environments which encourage physical activity and active transportation in subdivisions, neighbourhoods and public buildings, i.e., locating services within walking distance to residential areas; safe walking routes, trails, bike lanes, parks, signage to promote stair use, etc.
- Proactively supporting access to physical activity opportunities for marginalized individuals and groups.

Advocacy for “walkable” communities is founded on research that has found residents in high-walkability neighbourhoods (characterized by safe routes for pedestrian and bicycle travel including off-road trails and paths) report making more trips on foot or by bicycle (Sallis et al., 2004), and being more likely to engage in 30 minutes or more of moderate-intense physical activity on a given day (Frank et al., 2005). As well, it is recommended by researchers that “health care providers support the implementation and maintenance of exercise programs for their patients across the life span” (Thompson et al., 2003).

8.1.2 Public Education, Awareness and Promotion

Strategies for physical activity public education, awareness, and promotion include:

- Providing educational resources and materials targeted toward key health professionals to encourage and assist them in integrating physical activity into client/patient counseling or program services for the general public.
- Collaborating with major sectors focused on children and youth, such as the school system and child care centres, to enhance their knowledge and ability to support physical activity and healthy weights for young people.
- Developing targeted educational strategies for specific priority populations within the region. Priority targets could include those with chronic diseases or at-risk of chronic diseases (e.g., those with cardiovascular disease, diabetes, obesity/overweight, low-income families, seniors, mental health clients, etc.).
- Developing a promotion plan to shift attitudes and behaviours that will increase the level of public support, knowledge and participation in physical activities. A collaborative approach with PHSA, the Ministry of Health, other health authorities, major stakeholders and/or community organizations could increase the opportunity for an effective approach.

There is strong research evidence for a number of community-based strategies to increase physical activity, including large scale community-wide campaigns, and interventions that build and maintain social networks (such as buddy systems) to support behaviour change (Task Force on Community Preventive Services, 2002). For example, “Saskatoon-in Motion” increased the

number of citizens active enough to receive health benefits from 36 to 50 per cent, and maintained this level over a 4-year period (Saskatoon Health Region, 2005).

8.1.3 Community Capacity Building

Community capacity building and community development are key measures in supporting physical activity. They include:

- Facilitating the education, training and support for local organizations, including municipal councils, recreational departments, worksites and schools, to plan and organize community-based physical activity initiatives.
- Encouraging an integrated approach among key community groups and sectors to assess community-wide assets and needs, and develop a comprehensive community action plan.
- Facilitating information exchange among partners on best practices, data, technical advice and other approaches to support communities in the planning process.

Intersectoral collaboration and community participation are considered essential in ensuring that programs are sustainable, tailored to meet local needs, able to reach more than just the “motivated healthy” and able to capture local opportunities (Raine, 2004). The literature also repeatedly notes that effective programs for young people need to be multi-faceted, combining a school-based classroom approach with environmental changes in the school (e.g., cafeterias, physical education classes, recess interventions, etc.), home and community (City of Hamilton, n.d.).

8.1.4 Programs and Services (Interventions)

Many program delivery measures will involve supporting and assisting the development of effective interventions, rather than the direct delivery of services. These may frequently include integrated programs that combine healthy eating, physical activity and other wellness initiatives. Depending upon the level of resources, health authorities may build capacity through a team approach with other programs and community experts. They might include:

- Developing and promoting effective, evidence-based employee wellness programs which integrate physical activity, for the health authority itself, and providing assistance (as possible) to other organizations in developing employee wellness.
- Coordinating, promoting and enabling the integration of quality physical activity initiatives within relevant health care programs provided by the health authority.
- Collaborating with community organizations in delivering (or piloting) targeted programs to priority groups. Priority targets might include:
 - Children and youth with special needs.
 - Those with chronic diseases or at-risk of chronic diseases.
 - Aboriginal people.
 - Overweight and obese individuals.

- Those with low socio-economic status, or with other risk factors for poor health.
- Seniors, at home and in residential care.

There is extensive evidence on the health benefits of physical activity. For example, recent studies show physical activity significantly reduces the risk of death from any cause. Specifically, being fit or active was associated with a greater than 50 per cent reduction in risk for men (Myers et al., 2004). Physically inactive women (less than 1 hour of exercise per week) experienced a 52 per cent increase in all-cause mortality, a doubling of cardiovascular-related mortality and a 29 per cent increase in cancer-related mortality compared to physically active women (Hu et al., 2004).

8.2 Supporting Evidence

The above physical activity strategies and practices are based on a review of the literature in this field. The widespread recognition of physical activity as an important element in healthy living and the prevention of chronic diseases has resulted in extensive research literature in this field. The following list of major evidence reviews provides extensive evidence on the various strategies outlined above:

- *Effective Public Health Practice Project*, by the City of Hamilton. (n.d)..
- *Integrated Pan-Canadian Healthy Living Strategy*, by the Intersectoral Healthy Living Network. (2005).
- *Population Health and Urban Form: A Review of the Literature*, by Smart Growth BC. (2004).
- *Overweight and Obesity in Canada: A Population Health Perspective*, by K. Raine (2004).
- *A Guide to Community Prevention Services*, by the Centers for Disease Control and Prevention (2005a).

9.0 INTEGRATION OF HEALTHY LIVING STRATEGIES

Major healthy living strategies—tobacco control, healthy eating and physical activity—as well as strategies for other key lifestyle behaviours that may be included in the future, need to be integrated into an overall healthy living program. While the form of integration will vary according to each region, based on their unique structure, resources, population health risks and health determinants, there are a number of common organizing approaches for the integration of services. These could include:

- Regional and community organizational initiatives.
- Key regional and community target populations.
- Key community settings.

9.1 Integration – Organizational Initiatives

Regional and community organizational initiatives include both internal and external priorities and structures. The public health program priorities of a health authority provide opportunities to integrate healthy living strategies to enhance existing initiatives. For example, healthy eating may be a priority and thus provide a vehicle for integrating physical activity strategies to enhance its effectiveness.

Internal organizational structures and external partnerships are also key considerations in the integration process. Internal structures are needed to facilitate and coordinate integration at management and planning levels, as well as at program delivery levels. Structures could include designating management responsibilities for healthy living integration and coordination, establishing policies and procedures to ensure integration and/or promoting a cooperative approach among the respective health professionals who are linked to this field. An integrated approach is also necessary in collaborating with municipal councils, community stakeholders, non-governmental organizations and private sector organizations in order to develop a comprehensive approach to healthy living initiatives on a community level.

9.2 Integration – Target Populations

Targeting specific populations according to their unique needs and circumstances has been shown to be an effective approach to reducing risk factors for those groups who are most vulnerable to unhealthy lifestyle behaviours. The determinants of health are key considerations in this process as factors such as income and education level, family structure, gender, ethnicity and environmental conditions, can strongly influence behaviours. For example, social and economic determinants are important factors in assessing individual and family access to sufficient healthy food (Dietitians of Canada, 2002), and income and education level can influence physical activity and healthy weights (Statistics Canada, 2006, as cited in CIHI, 2006). An equity lens is currently under development by national and provincial healthy living alliances to provide additional tools in examining health disparities within the population.

Healthy living strategies can be integrated into existing public health programs already serving existing target groups. For example, healthy living strategies including tobacco control, healthy eating and physical activity strategies could be integrated into reproductive health programs, child development programs, mental health programs, workplace wellness or seniors' programs. Alternatively, healthy living initiatives could be stand-alone programs targeted to specific groups.

Examples of priority target populations include:

- Pregnant women.
- Children.
- People with mental disorders and addictions.
- Aboriginal people.
- People with low incomes or disabilities.
- People from diverse ethnic and cultural backgrounds.
- Seniors.

9.3 Integration – Key Settings

Integration within key settings has also been shown to be an effective approach to organizing and delivering healthy living programs. Key settings that have been the focus of effective healthy living initiatives include:

- Homes.
- Workplaces (healthy health care workplaces, and public/private workplaces).
- Schools.
- Communities.

Integration of healthy living at a settings level has been shown to be especially successful when a multi-sectoral, comprehensive approach is used. For example, healthy schools are created by including relevant curricula, healthy cafeteria and vending food choices, physical activity programs, smoking bans on school campuses, as well as positive modeling throughout the school environment. The initiatives are further enhanced by family/community-level initiatives that promote and reflect healthy living.

10.0 SURVEILLANCE, MONITORING AND EVALUATION

Healthy living surveillance and monitoring assists in clarifying the prevalence and trends in key healthy living behaviours, and in identifying the needs and priorities of high-risk populations. Evaluation enables the assessment of program effectiveness. Health authorities should be actively involved in:

- Gathering, assessing and reporting statistical information from a range of sources—national, provincial, academic and others—that provide information on the current status and trends related to tobacco use, nutrition issues, physical activity levels and rates of chronic diseases linked to lifestyle behaviours.
- Monitoring characteristics of at-risk populations within the health authority, using social and economic determinants of health and an “inequities lens” that examines groups such as single mothers, low-income families, people with mental illness, Aboriginal peoples, immigrant and ethnic groups and seniors.
- Developing profiles or snapshots of high-risk populations and sub-groups on a health authority and community level, as appropriate.
- Developing consistent, common standards for tobacco control and other healthy living data within the health authority (and eventually across health authorities).
- Establishing an evaluation framework for healthy living programs, with a focus on assessing those initiatives that have received little attention in the research literature.
- Collaborating with researchers in universities, professional organizations, federal/provincial governments and communities to enhance monitoring and surveillance.
- Maintaining an inventory of healthy living programs and resources provided within the health authority to provide baseline information for planning purposes.

All of this information may not be presently available to the health authority, or the health authority may require additional funding to capture the information. The health authority will need to consider its priorities and resource capacity in determining the level of activity in this area.

11.0 INDICATORS, BENCHMARKS AND PERFORMANCE TARGETS

11.1 Introduction

This section presents a number of key indicators or performance measures for a healthy living program. It may be that some of the suggested benchmarks can apply across the province, while other benchmarks may need to be modified to account for key variables such as geographic size and population density of the health authority, and cultural issues. Once there is a set of agreed-upon benchmarks, health authorities can use the indicators, benchmarks and performance targets to monitor their own performance and to address any gaps that may exist between the indicators for their regions and the agreed-upon benchmarks. It is anticipated that the Ministry of Health will work with health authorities to, over time, develop a greater consensus on key indicators and benchmarks for the healthy living program. As well, one or two key performance indicators may be selected to represent overall functioning of the healthy living program in the Health System Performance Frameworks between the Ministry of Health and health authorities.

One could develop indicators related to the inputs, activities, outputs and outcomes (immediate, intermediate or final) of each of the respective healthy living programs. Thus, it is not necessary to only have outcome-related indicators and benchmarks. Furthermore, indicators need to be understood within a broader context. For example, a low per capita cost for a specific program could reflect on the efficiency and effectiveness of the program, or it may reflect a program that is under-resourced. Thus, it would also be desirable to consider indicators based on logic models, which are often part of a Treasury Board-mandated, results-based management framework. Key elements of such logic models are inputs, activities, outputs and outcomes. In general, it is best to consider a number of indicators, taken together, before formulating a view about a given healthy living program. Surveillance indicators work best as flags to indicate a variance from accepted norms and standards. Further investigation is usually required to determine the causes of any given variance.

It is also important to define what one means by the terms *indicators*, *benchmarks* and *performance targets*. An indicator is a numerical representation of something that constitutes an important reflection of some aspect of a given program or service. Indicators need to be standardized in some manner so that they can be compared across different organizational entities such as health regions. Benchmarks are usually numerical representations. However, they are reflective of “best” practices. They represent the performance that health authorities should strive to emulate. Benchmarks are determined by: reviewing the literature; reviewing the best practice experience in other jurisdictions; or by determining “consensus” opinion of leading experts and practitioners in the field. Performance targets, on the other hand, are locally determined targets that represent a realistic and achievable improvement in performance for a local health authority.

When no provincial benchmarks are available for a certain program indicator, then it is reasonable for a health authority to determine its own performance target. A health authority could determine its performance target by assessing its current (and perhaps historical) level of performance and then, based on a consideration of local factors (e.g., capacity, resources, new technology, staff training etc.), it could establish a realistic performance target. This performance

target would be consistent with the goal of performance improvement, but would be “doable” within a reasonable period of time. Initially, performance targets will be set by health authorities for a number of indicators. However, over time and particularly if consistent data collection methods and definitions are applied, it would be realistic for health authorities to share information related to their performance targets and then develop a consensus with other health authorities to determine a provincial benchmark for these indicators. In other words, locally developed performance targets, over time, could lead to development of additional provincial benchmarks.

11.2 General Indicators for Healthy Living Surveillance and Monitoring

It is recognized that in many instances, health authorities will have relatively limited influence over these indicators.⁸ Nevertheless, it is important to identify indicators that can assist in monitoring developments and trends over time.

Table 1: General Indicators for Healthy Living Surveillance and Monitoring

Indicator	Definition/Description	Benchmark
1.1 Health authority chronic diseases patterns.	a) Prevalence of cardiovascular disease. ⁱ b) Prevalence of Type 2 diabetes. ⁱⁱ c) Prevalence of COPD (including emphysema). ⁱⁱⁱ d) Prevalence of lung cancer. ^{iv} e) Prevalence of overweight and obesity: ^v <ul style="list-style-type: none"> • Children, to 17-years-old. • Adults, 18 years and older. • Aboriginal people. f) Prevalence of osteoporosis. ^{vi} g) Prevalence of colon cancer. ^{vii} h) Prevalence of breast cancer. ^{viii} i) Prevalence of hypertension.	Benchmarks not available
1.2 Proportion of the health authority population who are overweight or obese.	Prevalence of overweight and obesity: ^{ix} <ul style="list-style-type: none"> • Children, to 17-years-old. • Adults, 18 years and older. • Aboriginal people. 	22%* Benchmark not available** Benchmark not available

* Twenty-two per cent is the rate of overweight and obesity in Alberta, the province with the lowest level in Canada (the Canadian average is 26 per cent; the BC rate is 26 per cent, using 2004 data).

** Canadian average was 59.1 per cent in 2004 (65 per cent for men and 53.4 per cent for women).

⁸ For information on the data sources utilized for the healthy living indicators, please refer to Appendix 7.

11.3 Indicators for Tobacco Control Strategies

Available survey data focus on cigarette smoking; data on cigar smoking and smokeless tobacco are not available.

Table 2: Indicators for Tobacco Control

Indicator	Definition/Description	Benchmark
2.1 Progress in adopting tobacco control policies.*	a) Health authority has implemented integrated tobacco control strategies throughout the organization. (Yes/No) b) Percentage of hospitals, residential and long-term care facilities that have campus-wide smoke-free policies. ^x	Yes Benchmark not available
2.2 Progress in awareness and support for tobacco control policies.	Percentage of the health authority population who report smoke-free home/vehicles. ^{xi}	Benchmark not available
2.3 Level of support for tobacco control.	Health authority has implemented a public awareness/communications plan for tobacco control. (Yes/No)	Yes
2.4 Patterns in smokers quit attempts.	Percentage of smokers that have tried to quit smoking in the last 12 months. ^{xii}	Benchmark not available
2.5 Patterns of youth access to tobacco.	Proportion of young people (under 19-years-old) reporting that they: ^{xiii} <ul style="list-style-type: none"> • Have been sold tobacco products by a retailer. • Received tobacco from a social source. 	Benchmark not available
2.6 Level of integration of cessation counseling.	Brief cessation counseling has been integrated into a wide range of health professionals' roles. For example, <ul style="list-style-type: none"> • Acute care. (Yes/No) • Primary care. (Yes/No) • Public health. (Yes/No) • Mental health/addictions. (Yes/No) • Aboriginal health care. (Yes/No) 	Yes Yes Yes Yes Yes

* A 10 per cent reduction in smoking rates by 2010 is a goal set by the Ministry of Health. Health authorities will need to establish appropriate benchmarks for their own use.

Table 3: Indicators for Tobacco Control – Prevention (Enforcement) and Cessation (Clinical Services)

Indicator	Definition/Description	Benchmark
3.1 Level of compliance with legislation on the sale of tobacco.	a) Percentage of retail outlets that are inspected three times/year. b) Percentage of retail outlets that are in compliance with the legislation. ^{xiv}	Monitoring purposes Benchmark not available 92%*
3.2 Level of cessation interventions.	a) Number of health authority clients receiving cessation counseling per year. b) Number of heavy tobacco users receiving cessation counseling with NRT per year.	Benchmark not available Benchmark not available
3.3 Patterns in the use of cessation aids.	a) Number of smokers who access QuitNow website annually. ^{xv} b) Number of smokers who access QuitNow by telephone annually. ^{xvi}	Benchmark not available

* Health Canada currently reports a 92 per cent compliance rate in BC, although there are questions about the accuracy of this number, and little data are available on a regional level (80 per cent has been used as a benchmark across Canada, as evidence demonstrates that reductions in sales to young people are generally achieved at this level).

Table 4: Indicators for Tobacco Use – Surveillance

These indicators are intended to measure trends over time, and success in achieving long-term goals. Many factors contribute to health authorities' performance, and the influence of health authorities may be limited in the short-term.

Indicator	Definition/Description	Benchmark
4.1 Prevalence of tobacco use.	Percentage of the health authority population who currently smoke (daily and occasional) (BC STATS): ^{xvii} <ul style="list-style-type: none"> • 15–19 years of age. • 20–24 years of age. • 25–44 years of age. • 45 years of age and older. • By gender. • By ethnicity. • By language spoken at home. • Pregnant women. • By education level. 	Benchmark not available*
4.2 Age of youth smoking initiation.	Average age that youth smokers had their first whole cigarette. ^{xviii}	Benchmark not available

Indicator	Definition/Description	Benchmark
4.3 Smoking cessation rates.	Percentage of smokers who quit smoking (on a daily basis) in the past year: ^{xix} <ul style="list-style-type: none"> • Males/females. • 12–19 years of age. • 20–24 years of age. • 25–44 years of age. • 45 years and older. 	Benchmark not available
4.4 Level of public exposure to second-hand smoke.	Percentage of the public who are exposed to second-hand smoke (BC STATS): ^{xx} <ul style="list-style-type: none"> • In places of work outside the home. • In their household. • In cars. • In public places (indoors). 	Benchmark not available
4.5 Smoking-attributable mortality rates.	Annual smoking-attributable mortality (SAM) rates within the health authority for: ^{xxi} <ul style="list-style-type: none"> • Cancers. • Circulatory system diseases. • Respiratory system diseases. 	For monitoring purposes

11.4 Indicators for Healthy Eating Strategies

In many instances, health authorities will have relatively little influence or control over the performance related to some of these indicators. Nevertheless, it is important to identify indicators that may be of assistance in monitoring developments and trends in this field.

Table 5: Indicators for Healthy Eating

Indicator	Definition/Description	Benchmark
5.1 Proportion of key organizations with healthy food and nutrition policies.	Percentage of key organizations that have completed a healthy food and nutrition action plan. ^{xxii} <ul style="list-style-type: none"> • Health authority. (Yes/No) • Percentage of elementary and secondary schools with food and nutrition policies.^{xxiii} • Number of communities with food charters and/or policies.^{xxiv} 	Yes 90%* Benchmark not available
5.2 Proportion of hospitals who have adopted WHO breastfeeding guidelines.	Percentage of hospitals who have implemented the WHO/UNICEF “Baby Friendly Initiative” to promote breastfeeding. ^{xxv}	Benchmark not available
5.3 Level of planning for public education/social marketing by the health authority.	Health authority has a communication plan to promote healthy eating behaviours. (Yes/No)	Yes

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Indicator	Definition/Description	Benchmark
5.4 Accessibility to healthy eating programs.	<p>a) Percentage of health authority employees who have access to an employee wellness program that incorporates healthy eating.^{xxvi}</p> <p>b) Healthy eating programs are targeted to priority populations.^{xxvii}</p> <ul style="list-style-type: none"> • Infant/early childhood. (Yes/No) • At-risk childhood. (Yes/No) • Mental health clients. (Yes/No) • Limited-income families. (Yes/No) • Aboriginal people. (Yes/No) • Seniors. (Yes/No) <p>c) Number of calls to Dial-A-Dietitian.^{xxviii}</p>	Benchmarks not available

* The BC Ministry of Education has established the goal of 90 per cent by 2009.

Table 6: Indicators for Healthy Eating – Surveillance

Indicator	Definition/Description	Benchmark
6.1 Proportion of the population that has healthy food.	<p>a) Percentage of the health authority population that eats 5 servings of fruit and vegetables daily.^{xxix}</p> <p>b) Percentage of mothers breastfeeding their infants for at least 6 months.^{xxx}</p>	Benchmarks not available
6.2 Proportion of the population at risk of lacking enough healthy food.	Percentage of people living under the Statistics Canada poverty line (i.e., <i>Low-Income Cut-Off</i>). ^{xxx1}	Monitoring purposes
6.3 Affordability of healthy foods.	The annual cost of a nutritious food basket in BC (based on standardized National Nutritious Food Basket). ^{xxxii}	Monitoring purposes
6.4 Proportion of people who experience a lack of food security.	Percentage of people living in households that indicated food insecurity (i.e., they ran out of food or skipped meals due to a lack of food in the past month). ^{xxxiii}	Benchmark not available

11.5 Indicators for Physical Activity Strategies

In many instances, health authorities will have relatively little influence or control over the performance related to some of these indicators. Nevertheless, it is important to identify indicators that may be of assistance in monitoring developments and trends in this field.

Table 7: Indicators for Physical Activity

Indicator	Definition/Description	Benchmark
7.1 Level of planning for physical activity promotion.	a) Health authority has a promotion plan for physical activity. (Yes/No) b) Health authority partners with other organizations to plan and deliver physical education programs. (Yes/No)	Yes Yes
7.2 Level of public awareness and support for physical activity.	a) Percentage of the public who indicate a moderate or high level of knowledge and support for regular physical activity. ^{xxxiv} b) Percentage of the public who think they are active enough. ^{xxxv}	Benchmark not available
7.3 Accessibility of physical activity programs.	a) Percentage of health authority employees who are utilizing an employee wellness program that promotes physical activity. b) Physical activity programs are targeted to priority populations: <ul style="list-style-type: none"> • All chronic diseases programs have a physical activity component. (Yes/No) • Low-income families. (Yes/No) • Aboriginal people. (Yes/No) • Those who are obese. (Yes/No) • Residents of all care facilities. (Yes/No) • Seniors. (Yes/No) 	Benchmark not available Yes Yes Yes Yes Yes Yes

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Indicator	Definition/Description	Benchmark
7.4 Patterns in delivery of physical activity programs.	<ul style="list-style-type: none"> a) Health care providers are trained in providing physical activity counseling. (Yes/No) b) All primary health care teams and residential care teams provide brief, evidence-based physical activity counseling. (Yes/No) c) Percentage of health authority communities classified as “active communities.”^{xxxvi} e) Percentage of health authority schools that have adopted “Action Schools BC.”^{xxxvii} 	<ul style="list-style-type: none"> Yes Yes Benchmark not available Benchmark not available

Table 8: Indicators for Physical Activity – Surveillance

Indicator	Definition/Description	Benchmark
8.1 Proportion of the population who are physically active.	Percentage of BC population, by gender, who are physically active or moderately active. ^{xxxviii}	Benchmarks not available

12.0 EXTERNAL CAPACITY AND SUPPORT REQUIREMENTS

12.1 Key Success Factors/System Strategies

The previous sections outlined the main components and best practices that health authorities could include in their healthy living programs. However, it must be emphasized that successful implementation of effective programs in this field will also depend on having in place key success factors/system strategies. These include:

- Strong support from the Board and management of the health authorities regarding the importance of all aspects of the healthy living program in their regions and the role they play in protecting the health of the population.
- Allocation by the health authorities of sufficient resources to meet the priority needs identified in their health improvement plan.
- Well-trained and competent staff with the necessary policies and equipment to carry out their work efficiently.
- An information system that provides staff with appropriate support, provides management with the information it needs to drive good policy and decisions and provides the public with access to healthy living information.
- Clear mechanisms of reporting and accountability to the health authority and external bodies.

12.2 Intersectoral Collaboration and Integration/Coordination

As noted previously, intersectoral collaboration was recognized by the expert group to be essential, and health authorities are encouraged to take this approach in healthy living programs. Effective tobacco control, healthy eating and physical activity programs can only be implemented with strong collaboration and support from other key groups within the health sector, such as primary care physicians, and public health programs such as chronic disease prevention, home and community care, pregnancy outreach, and infant/child and youth health services. At the local and regional levels, the important linkages are with schools, municipal councils, employer groups, child care programs, recreational centres and local service agencies providing support to low-income children and families, seniors, Aboriginal peoples, teen parents and other at-risk populations. At the federal level, it is important to collaborate with Health Canada, the Public Health Agency of Canada and Indian and Northern Affairs Canada (enhancing services to Aboriginal peoples).

12.3 Assessment and Evaluation of the Healthy Living Program

It will be important for health authorities to review their existing information and monitoring systems with respect to integrating and coordinating the measurement and monitoring of performance indicators. It may be necessary to:

- Establish new policies and procedures for some activities to ensure that the necessary records are kept.

- Plan regular survey or sampling projects, either individually or in partnership with other health authorities, to assess performance on certain indicators. For example, the level of knowledge about healthy eating practices among the public will likely only be available through conducting a survey to gather baseline data, and repeating the survey at a later date to determine any differences over time. Such surveys may be conducted by each region or developed as a joint project.

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APPENDIX 1: THE EVIDENCE BASE FOR A MODEL CORE PROGRAM FOR HEALTHY LIVING (PHYSICAL ACTIVITY & HEALTHY EATING)

Taken from: *Evidence Review: Healthy Living – Physical Activity & Healthy Eating*, prepared by Hollander Analytical Services, for the Ministry of Health, Population Health and Wellness (2006).

This document was prepared to support the development of an evidence-based core public health program in healthy living in British Columbia. The healthy living program focuses on three areas: healthy eating, physical activity and tobacco control. Research on healthy eating and physical activity is included in this paper. The evidence related to tobacco control is presented in a separate evidence review.

A population health approach is reflected throughout the paper to identify the broad range of factors and conditions that influence healthy living. The determinants of health are included, where available, to acknowledge the importance of factors such as income and education level, family structure, gender, ethnicity and environmental conditions. Social and economic determinants in particular are noted as evidence clearly identifies income level as a factor in a family's access to sufficient healthy food (Dietitians of Canada, 2002), and income and education level as an indicator of physical activity and healthy weights. Individuals with the lowest income levels tend to be less active than those with higher incomes (Statistics Canada, 2006, Canadian Community Health Survey 2.2 – custom tabulation, as cited in Canadian Institute for Health Information [CIHI], 2004); similarly, women and men with high school education, or less, are more likely to be obese than those with post-secondary education (Tjepkema, 2005).

The promotion of healthy living is complex and challenging. For example, over the past 20 years, the percentage of Canadian adults who are overweight and obese has more than doubled, while rates have nearly tripled for Canadian children (CIHI, 2004). Obesity alone costs the BC economy an estimated \$730–\$830 million a year (Colman, 2001). The World Health Organization (WHO, 2005) states “the impact of the obesity epidemic on non-communicable diseases such as cardiovascular disease, Type 2 diabetes, and cancer, threatens to overwhelm health systems.”

The many interrelated factors that contribute to healthy living in BC include:

- Prevention of non-communicable chronic diseases
- Community and physical environment.
- Workplace.
- School.
- Child care.
- Home and family environment.

- Nutrition environment.
- Healthy living policies.

The evidence on a wide range of initiatives under each of these categories is discussed in this document. Many single-targeted interventions appear to be effective at increasing healthy eating and physical activity, and, in some cases, reducing overweight and obesity. Other interventions that use multiple strategies or have multiple target audiences, such as coordinated school health programs, also appear to be effective in many cases. Overall, the evidence suggests that the most effective interventions to change diet and physical activity patterns at the population level are to:

- Adopt and integrated, multidisciplinary and comprehensive approach.
- Involve a complementary range of actions.
- Work at individual, community, environmental and policy levels (Raine, 2004).

The success of population-based change strategies requires strong support from all levels to ensure that programs are well resourced and integrated into existing programs and structures. In addition, intersectoral collaboration and community participation are essential to ensure that programs are sustainable, tailored to meet local needs, able to reach more than just the “motivated healthy” and able to capture local opportunities (Raine, 2004).

APPENDIX 2: THE EVIDENCE BASE FOR A MODEL CORE PROGRAM FOR HEALTHY LIVING (TOBACCO CONTROL)

Taken from: *Evidence Review: Healthy Living – Tobacco Control*, prepared by the Centre for Addictions Research of British Columbia, for the Ministry of Health, Population Health and Wellness (2006).

The review of the literature suggests that multiple activities contribute to effective tobacco control. Offered in isolation, these activities may demonstrate small (perhaps negligible) to moderate impact. But woven together and delivered through multiple channels—especially by committed internal and external (local, provincial and national) partners—they have the potential to effect meaningful, large-scale change.

Taxation

- Tobacco taxation measures are most effective when implemented in combination with a comprehensive tobacco control program that is well-publicized, well-funded (e.g., by dedicated tax revenues), responsive to the price sensitivity of smokers and supplemented by smoking restrictions and media campaigns. It is difficult, however, to calculate an “optimal” level of taxation, as risks and benefits are apparent whether tobacco taxes are raised or not. Concerns over unintended harms to vulnerable population can be averted by matching tax increases with complementary interventions targeted specifically at at-risk individuals. Worries about the heightened potential for cigarette smuggling can be mitigated by balancing tax increases with (1) adequate funding and ample human resources to address tax evasion activities (especially large container shipments of tobacco), and (2) reliable access to cessation services to ensure that smokers quit in the face of tax increases, rather than seek out other means (e.g., non-taxed or low-taxed products) to satisfy their needs.

Communications

- Other possibilities for broadening communication initiatives include engaging the media in advertising of the compliance successes and failures of individual tobacco retailers (Canadian Cancer Society, 2002). The benefits of such advertising are realized by keeping both retailers and the general public aware of the presence of meaningful enforcement (and overall tobacco control) programs in the community. As well, Quitnow should be used as a vehicle to link activities (cessation, prevention and protection-related) across regions and populations, thereby generating wider recognition of tobacco control successes. As evidenced by statewide and national research, the greater the collaboration and consistency between partners, the more widespread and forceful the program effects will be.
- Media anti-smoking campaigns have been seen to reduce smoking and save life-years at an extremely low expense relative to other tobacco control measures (e.g., clinical approaches). The cost-effectiveness and potential benefits of mass media campaigns are

substantial, when they are expanded broadly. However, evidence indicates that when funded inadequately (e.g., Minnesota's \$0.35 per capita media strategy), campaigns will have little or no impact. Unfortunately, local data on cost-utility are lacking, but estimates put a price of \$1 to \$3 US per capita per year as the minimum investment necessary to fund a moderately-sized but forceful media intervention.

Brief Intervention

- A few minutes of cessation-specific advice by physicians is a critical component to comprehensive tobacco control, and a key factor in increasing cessation rates and stimulating quit attempts among adult smokers. Problematically, brief intervention does not appear to be used on a consistent basis, suggesting that better systems to facilitate its delivery are essential for success.
- Use of brief intervention among youth shows mixed results, possibly owing to poor application by health care providers. Recruiting other members of the health community (pharmacists, dentists and nurses) to deliver brief advice has the potential to increase its application and broaden its effects across both younger and older audiences. Considering the burden of harm and its distribution by substance type, screening for tobacco and alcohol use should take priority among professionals. Ultimately though, sustainable brief intervention demands a coordinated system that (1) clearly identifies smoking status in client records; (2) prompts providers to check on client smoking behaviours; and (3) helps providers and administrators to monitor brief intervention usage over time, as well as individual client progress. Unfortunately, programs to train professionals in giving brief advice have not seen great impact on cessation rates.
- Brief intervention is one of the most cost-effective cessation services available to health care providers, with some evidence indicating that the costs per life-year saved via such support can fall under \$500 US. The application of brief intervention can be achieved at a relatively low expense, and its positive impacts can be felt at costs below other popular quit interventions, including the universal subsidization of nicotine replacement products.

Pharmacotherapy

- There is no doubt about the efficacy of pharmacological treatments (nicotine replacement therapy [NRT] and bupropion) in increasing cessation success among adults, but the issue of universal subsidization of such treatments is more complicated. Considering related expenses and questions about who is most likely to benefit from pharmacotherapy, attention is perhaps best focused on assisting people who bear a heavier burden of smoking harm—for instance, individuals on lower incomes, or with mental illness or multiple dependencies, who are backed by existing behavioural support.
- Reflecting on related evidence, McDonald (Ministry of Health, 2005) argues that pharmacotherapies (including NRT and bupropion) should be available at no cost to all heavy smokers and individuals with recognized medical conditions (e.g., psychiatric illness and multiple dependencies).

- Pharmacotherapy has been documented as successful among populations ranging from minorities to seniors to the mentally ill, although it is likely to have greater impact when offered alongside some form of behavioural support (brief or more intensive). In terms of impact on heavier versus lighter smokers, NRT effectiveness has most often been reported for individuals who smoke between 15 and 20 cigarettes per day. However, emerging work has begun to document its impact on lighter smokers (≤ 15 cigarettes) as well. It seems too early, then, to make a definitive statement about NRT efficacy, based solely on number of cigarettes smoked. On the other hand, knowing that certain populations bear an inordinate share of the burden of smoking harm and can benefit from pharmacotherapy means that targeting such therapy to these audiences could have meaningful outcomes.
- Pharmacotherapies appear to be cost-effective relative to other common health care interventions. Moreover, calculations find their cost to be far below the amount the public claims to be ready to pay for one quality-adjusted life-year (QALY) saved (i.e., far under \$17,700 to \$45,700 US, as cited by Bolin, Lindgren, & Willers, 2006). Estimates set the expense per life-year saved via pharmacotherapy at anywhere between about \$600 US to over \$10,000 US, with several calculations falling between about \$2,000 to \$4,000 US. It is unclear whether bupropion is more cost-effective than NRT. However, it is clear that compared to other smoking interventions, pharmacotherapy tends to rank lower on cost-utility analyses because of its larger expense and smaller overall effect size. Given these findings, universal subsidization of pharmacological treatments is questionable, but targeted subsidization for vulnerable individuals who demonstrate good odds of success could prove valuable.

Formal Counselling Programs

- Group counselling programs, pre-operative programs, cessation options for persons with mental illnesses or multiple dependencies (including pharmacotherapy coverage), and telephone- and web-based quitlines have all shown success in improving cessation rates among various populations. Intensive individual counselling can impact on smoking behaviour, but not necessarily with any more strength than can brief counselling or group options. Peer-led programs on university campuses appear to have promise, as do emerging text-messaging interventions for youth. In some cases, telephone support for young people also seems to have boosted quit rates; however, meaningful options for youth are still far too rare.
- Proactive systems that ensure smokers have access to ongoing support are important elements to many counselling services. Telephone- and web-based programs have proven effective in scientific trials, but their usual audience appears to be overpopulated by certain users, suggesting they may not be appropriate (or may need tailoring) for various audiences. Cessation support options should be attentive to the role that smokers' partners play in enabling—or hindering—quit success. Integrating partners into these programs, and even integrating parents into youth-oriented programs, could enhance outcomes.

- Clear research on cessation expenses is relatively rare, meaning that conclusive statements about the cost-effectiveness of formal counselling are problematic. Group programs should prove cost-effective if uptake is strong—but little evidence is available to confirm or deny this presumption. Telephone systems demonstrate cost-efficacy; however, precise expenses and QALY estimations differ by country and program components. In the end, it is important to note that cessation support in general saves human life-years at costs far below those of other common health care interventions.

Smoke-Free Policies

- Smoking bans in public places are a critical element to comprehensive tobacco control, standing as the most effective means for reducing second-hand smoke exposure, and as key tools in preventing tobacco use, decreasing consumption, reducing serious health-related hospital admissions, increasing quit attempts and boosting overall cessation rates. Smoke-free restrictions have proven beneficial to both adults and youth, and appear to have the most powerful effects when implemented on a voluntary basis by individuals in their own homes (see Section 9.0 for further details on home-based policies).
- Smoking bans do not negatively impact upon the profitability of public establishments—this is a myth perpetrated primarily by the tobacco industry. Clean air regulations have, at times, been seen to enhance sales and employment within the hospitality and entertainment industries, and the Capital Regional District’s experience offers a basic model for successful implementation of such regulations. Enforcement is a critical component in ensuring the effectiveness of smoking bans, particularly as these bans are extended to cover more and more environments.
- The cost-effectiveness of smoking bans is reflected not only in reduced health care costs, but in fewer expenses associated with smoker-related productivity shortfalls, profit losses, property damage, insurance premiums and maintenance and cleaning fees. Relative to the price of nicotine replacement therapy, smoke-free regulations are nine times more affordable. Estimates put the approximate cost of clean air laws at \$350 per DALY (disability-adjusted life-year) saved, and BC-specific calculations predict the overall savings from such laws to be \$49 to \$96 million per year.

Smoke-Free Homes and Vehicles

- Home smoking policies are effective as tools of protection, prevention and cessation. They are linked to decreased exposure to second-hand smoke, decreased experimentation, increased quit attempts and longer intervals between relapse. Such policies can perhaps even counteract the effects of peer influence; however, their overall impact is debatable given that they are usually unequally applied (meaning they are prevalent in homes that are occupied by individuals from higher socio-economic brackets, by adult non-smokers or by children) (Green, Courage & Rushton, 2003). Unfortunately, restrictions on smoking in vehicles appear not to have been subject to rigorous scientific evaluation, and evidence of the impact of partial bans in homes is mixed (cf. Farkas et al., 2000; Szabo et al., 2006).

- However, Proescholdbell et al.(2000) also determine that, for high school students, the relationship between such policies and less experimentation is specific to households with non-smoking parents. Szabo et al.'s (2006) research presents similar findings that suggest that home smoking bans have their greatest impact on adolescents whose parents do not use cigarettes.
- Smoke-free homes and vehicles are arguably better facilitated by jurisdiction-wide policies regulating smoking in public places, than by specific smoke-free home/vehicle initiatives. Information pamphlets alone are not sufficient to influence home smoking behaviour. Rather, cessation support and brief intervention by health care providers are essential to increasing the proportion of home/vehicle no-smoking policies, as well as increasing the participation of socio-economically underprivileged groups in the implementation of such policies. Media engagement, following the tailored approach of New South Wales, Australia, could also prove effective, but both smokers and non-smokers need to be targeted to support smoke-free home/vehicle bans.

Enforcement of Sales to Minors Laws

- Tobacco sales to minors are informed by a variety of factors, from youth behaviour to type of retail outlet to the characteristics of clerks themselves. The complicated nature of smoking regulation means that enforcement programs have to be well-supported and well-tracked to adapt to changing and complex circumstances. In particular, these programs need to be responsive to the real, on-the-ground conduct of young smokers. The best research on this topic suggests that enforcement efforts should work to:
 - Supplement or substitute official enforcement data with youth survey data or more faithful measurements of “risk exposure.”
 - Target high-risk retail outlets and high-risk clerks.
 - Employ realistic minor test shoppers, including actual smokers and older youth (16 to 17 years old).
 - Ensure that clerks are properly trained in checking identification—and that they apply this knowledge effectively and consistently (note that electronic devices to facilitate ID readings have little, if any, evidence of effect).
 - Engage the media in advertising the compliance histories of individual retailers.
 - Consider implementation of a licensing system to track retailers.
- Enforcement programs have typically not been subject to careful cost-benefit analysis, but research suggests that even inefficient programs can be pegged at a cost-effectiveness of \$8,200 per life-year saved. The pressing question is: how much should be invested in enforcement when other interventions (e.g., tax increases, smoke-free policies) require less subsidization while yielding greater returns?

Restricting Point-of-Purchase Tobacco Promotions

- Strict restrictions on point-of-purchase (POP) tobacco promotions have seen relatively little testing in the academic literature, and, as of yet, have demonstrated no clear association with changes in smoking behaviours or intentions. Studies of tobacco-related advertising in the retail environment, while occasionally lacking rigour, imply that point-of-purchase promotions may increase, among other things, tobacco sales, impulse purchases of tobacco products, smoking experimentation by youth, adolescents' perceptions of ease of access to cigarettes and the likelihood that youth will consider both accepting cigarettes offered to them by their friends and smoking in the upcoming year. Ultimately, comprehensive advertising bans that include POP restrictions appear to be correlated with lower potential exposure to tobacco influences than bans without such restrictions.
- Tobacco POP promotions have increased considerably in recent years, and have been significantly and repeatedly associated with outlets utilized by youth, minorities, the poor and rural populations. Given such associations, comprehensive restrictions on POP materials will likely have their greatest effect on reducing risks among already vulnerable individuals. Implementation of these restrictions, however, necessitates a solid understanding of their potential impact on retailers. Research testifies to the strong bonds between storeowners and tobacco companies, but few studies speak to the challenges faced by retailers in transitioning to POP-free environments, or to appropriate means by which tobacco control workers can facilitate such a transition.

Parent and Youth Education

- There is ongoing debate over the value of school-based youth tobacco education, but, if done well, such education has the potential to bring about small, likely short-term, yet beneficial changes in smoking initiation rates and smoking-related harm. Effective education programs do not have to be tobacco-specific—since multi-drug-focused and general healthy living-centred interventions also have potential for success—or concentrate solely on adolescents. Indeed, education across the lifespan is important, and parent programs that aim to enhance parenting skills (especially communication skills), and link parents to youth-oriented initiatives, can have an especially meaningful impact on well-being.
- Smoking-related education does not have to be limited to programs delivered in the school environment. Peer-led programs, workplace programs, mentoring programs and alternative community activities (e.g., after-school or late-night programs) can be used to broaden the reach and reinforce the effects of prevention messages. In schools, though, evidence indicates that effective education initiatives tend to depend on:
 - Intervention during early adolescence (as opposed to during later youth).
 - High-quality teacher training.

- High-fidelity implementation (meaning standardized program delivery; little to no deviation from the ideal; and monitoring of program deliverers—staff, teachers, peer leaders—to ensure adherence and exposure to the program).
- The only substantial cost-effectiveness data on smoking-related education appears to come from studies of strictly school-based, youth-oriented programs. While some continue to question the investment of any money at all in school-based activities, the data suggest that every \$1 expended on school programs should yield between \$2 and \$15 in beneficial returns. Estimates put the cost-effectiveness of a national American program at about \$20,000 per QALY saved.

Research and Evaluation

- An adaptive, goal-driven, integrated and well-maintained regional tobacco control strategy demands systems that can manage best practice data, gather relevant research information, monitor the process of service delivery and collect final outcome data.
- Research priorities should focus on identifying and testing effective interventions for high-prevalence groups, including Aboriginal peoples and individuals with mental illness. Such research should seek to take advantage of the extensive and powerful system of social and environmental scaffoldings that are maintained by collectives like faith-based and cultural organizations and workplaces, rather than focus only on interventions that address individual smokers.

APPENDIX 3: PROGRAM SCHEMATIC – MODEL CORE PROGRAM FOR HEALTHY LIVING (GENERAL HEALTHY LIVING PROGRAM)

Objectives: Increase systemic supports for healthy living choices, in an integrated manner, at the individual, family, community and regional level.
 Prevent and reduce high-risk behaviours, including tobacco use, unhealthy eating and physical inactivity, particularly among young people and vulnerable individuals and groups.
 Enhance surveillance, monitoring and evaluation of healthy living trends and interventions.

Main Components	Implementation Objectives (Best Practices)	Outputs	Linking Constructs	Short-term Outcomes	Long-term Outcomes
Decrease the use of tobacco products	<ul style="list-style-type: none"> Prevent smoking among young people. Protect the public from second-hand smoke. Increase tobacco cessation and tobacco reduction. <p>Program Schematic on Tobacco Control (Appendix 3) provides more detail</p>	<ul style="list-style-type: none"> Information and educational materials. Capacity building. Smoke-free policies and compliance measures. Cessation programs. 	<ul style="list-style-type: none"> Increased public and organizational knowledge. Increased number of environments supportive of tobacco control. 	<ul style="list-style-type: none"> Improved support for tobacco control. Increased cessation attempts. Less second-hand smoke. 	Reduced rate of smoking and tobacco use
Increase the number of people eating healthy food, of sufficient quantity and quality to enhance health	<ul style="list-style-type: none"> Advocate to influence health public policy on healthy eating issues. Undertake public education, awareness and social marketing. Build community capacity to assist communities in planning and implementing comprehensive community-based initiatives. Provide programs and services that are targeted to population groups that are at-risk of poor nutrition. <p>Program Schematic on Healthy Eating (Appendix 4) provides more detail</p>	<ul style="list-style-type: none"> Information about healthy eating. Community food policies/action plans. Programs for priority at-risk groups. 	<ul style="list-style-type: none"> Increased community capacity to address local food issues. Enhanced public knowledge. Increased access to healthy food for at-risk groups. 	<ul style="list-style-type: none"> Improved availability of local, healthy food. Increased consumption of affordable, healthy, locally produced food. 	Improved level of healthy eating ↓
Increase the levels of regular physical activity among the population to the recommended daily amount	<ul style="list-style-type: none"> Advocate to influence health public policy on physical activity. Undertake public education, awareness and social marketing. Build community capacity to assist communities in planning and implementing comprehensive community-based initiatives. Provide programs and services that are targeted to population groups that are at-risk of poor health due to physical inactivity. <p>Program Schematic on Physical Activity (Appendix 5) provides more detail</p>	<ul style="list-style-type: none"> Information, education, workshops and training. Policies on physical activity. Partnerships and networks. Programs targeted to priority groups. 	<ul style="list-style-type: none"> Increased knowledge and commitment to physical activity. Enhanced capacity. Increased opportunities for at-risk groups. 	<ul style="list-style-type: none"> Improved attitude toward physical activity. Increased number of programs, facilities, bike lanes, trails, etc. 	Increased physical activity
Integration of healthy living strategies	<ul style="list-style-type: none"> Integrate healthy living strategies in organizational strategies. Integrate healthy living strategies into programs for target populations. Integrate healthy living strategies into key settings (workplaces, schools and communities). 	<ul style="list-style-type: none"> Healthy living initiatives included in priority programs, population groups and settings. 	<ul style="list-style-type: none"> Collaboration among health programs/staff/community groups. 	<ul style="list-style-type: none"> Improved integration of healthy living initiatives. 	Decreased chronic diseases
Surveillance, monitoring and evaluation	<ul style="list-style-type: none"> Provide high quality and timely evidence for assessing the achievement of the program and effectiveness of strategies and interventions. 	<ul style="list-style-type: none"> Research/trend analysis. Baseline data on programs performance. Evaluation frameworks. 	<ul style="list-style-type: none"> Improved surveillance, monitoring and evaluation of healthy eating programs. 	<ul style="list-style-type: none"> Improved decision-making to enhance program effectiveness. 	Improved population health

APPENDIX 4: PROGRAM SCHEMATIC – MODEL CORE PROGRAM FOR HEALTHY LIVING (TOBACCO CONTROL STRATEGY)

Objectives: Prevent youth and young adults from starting to use tobacco.
 Protect the public from exposure to second-hand tobacco smoke.
 Increase cessation of smoking and use of tobacco products.

Main Components	Implementation Objectives (Best Practices)	Outputs	Linking Constructs	Short-term Outcomes	Long-term Outcomes
Advocacy and Public Policy	<ul style="list-style-type: none"> Model tobacco-free policy and practices within the health authority. Advocate for collaborative community measures to ban tobacco use in youth settings (sports, recreation, school, etc.). Encourage and promote the adoption of smoke-free environments by municipal authorities, workplaces, schools, recreation and sports organizations. 	<ul style="list-style-type: none"> Meeting and proposals to strengthen smoke-free policies, compliance and tobacco bans. 	<ul style="list-style-type: none"> Increased knowledge about tobacco control strategies and best practices. 	<ul style="list-style-type: none"> Increased awareness and support for anti-smoking initiatives and smoking cessation. 	↓ Reduced rate of smoking and tobacco use
Public Education, Awareness and Social Marketing	<ul style="list-style-type: none"> Reduce youth access to tobacco through programs that educate retailers and decrease social sources of tobacco. Provide educational resources to health professionals and stakeholders in other sectors to assist them in supporting tobacco-free lifestyles. Highlight prevention messages targeted toward youth in all public information / awareness initiatives on tobacco control. Develop social marketing campaigns to shift attitudes and behaviours. 	<ul style="list-style-type: none"> Information and educational material. Social marketing initiatives. 	<ul style="list-style-type: none"> Increased negative perceptions toward tobacco use. 	<ul style="list-style-type: none"> Reduced youth access to tobacco. Enhanced tobacco control in youth settings. 	
Community Capacity Building	<ul style="list-style-type: none"> Build community capacity through educating, training and encouraging health professionals within and outside the health authority to integrate cessation interventions, including brief counseling. Provide leadership and participating in strategic linkages and partnerships with community stakeholders to provide cessation programs with a priority on youth and those with high smoking rates. 	<ul style="list-style-type: none"> Workshops and planning sessions for health professionals. Meetings and information sharing. 	<ul style="list-style-type: none"> Increased knowledge on intervention techniques within the health authority and among community stakeholders. 	<ul style="list-style-type: none"> Increased support for, and integration of, smoking cessation initiatives. 	
Prevention (Enforcement)	<ul style="list-style-type: none"> Reduce youth access to tobacco through initiatives that ensure compliance with sales-to-minors legislation. Enforce public policy and legislative measures including compliance with smoke-free policies. 	<ul style="list-style-type: none"> Compliance measures. Monitoring. 	<ul style="list-style-type: none"> Increased knowledge and willingness to comply with legislation. 	<ul style="list-style-type: none"> Increased support for anti-smoking initiatives. 	
Tobacco Cessation (Clinical Services)	<ul style="list-style-type: none"> Promote access to provincial telephone and web-based resources such as QuitNow. Deliver tailored cessation programs directly to smokers, based on a range of needs (such as brief intervention counseling, group programs, nicotine replacement therapy for heavy users of tobacco). 	<ul style="list-style-type: none"> Cessation programs. 	<ul style="list-style-type: none"> Increased willingness to stop smoking. 	<ul style="list-style-type: none"> Improved public access to cessation programs. 	

APPENDIX 5: PROGRAM SCHEMATIC – MODEL CORE PROGRAM FOR HEALTHY LIVING (HEALTHY EATING STRATEGY)

Objectives: Optimize nutritional health, with a view to promoting healthy growth and development in the early years, and preventing chronic diseases in later years.
 Prevent poor eating behaviours, particularly among populations at-risk of poor nutrition.

Main Components	Implementation Objectives (Best Practices)	Outputs	Linking Constructs	Short-term Outcomes	Long-term Outcomes
Advocacy and Public Policy	<ul style="list-style-type: none"> Model healthy eating programs within the health authority. Advocate with key decision-makers for policies and strategies to address nutritional needs and healthy weights for health authority population and health authority staff. Promote and encourage the development of healthy community food policies and action plans. Advocate for enhanced nutritional support policies for priority groups (e.g., breastfeeding policies, nutrition for seniors in care, and so on). Encourage other professionals to advocate for effective dietary policies. 	<ul style="list-style-type: none"> Communities with food policies and food action plans. Schools, hospitals and long-term care homes with healthy food policies. 	<ul style="list-style-type: none"> Implementation of plans: increased community food security action. Increased access to affordable, healthy food. Increased number of environments supportive of food security. 	<ul style="list-style-type: none"> Increased consumption of affordable, healthy, locally produced food that uses environmentally sustainable production and distribution. 	Increased level of healthy eating
Public Education, Awareness, and Social Marketing	<ul style="list-style-type: none"> Provide educational resources/workshops/protocols for other health professionals to support integrating healthy eating into their services/programs. Collaborate with major sectors such as the school system, child care centres and families to enhance their ability to support healthy eating and healthy weights. Provide targeted educational resources, workshops and events for priority population to improve their knowledge and skills (e.g., breastfeeding clinics, food purchasing preparation for low-income families). Develop social marketing campaigns to shift attitudes and behaviours. 	<ul style="list-style-type: none"> Other health professionals knowledgeable about healthy eating. Information and awareness materials/campaigns. 	<ul style="list-style-type: none"> Increased information and understanding about healthy eating. 	<ul style="list-style-type: none"> Increased awareness/knowledge about healthy eating. 	Decreased level of chronic diseases
Community Capacity Building	<ul style="list-style-type: none"> Provide leadership, and collaborate with key stakeholders and community coalitions to develop needs assessment and actions plans to enhance healthy eating practices and improved access to safe, nutritious foods. Facilitating collaboration with local food producers and food suppliers to increase access to quality locally grown food. Promote best practices, and provide technical advice and other assistance for communities in food planning and development processes. 	<ul style="list-style-type: none"> Information and educational materials. Community capacity building training sessions. Public service announcements. 	<ul style="list-style-type: none"> Increased community networking and planning. Increased knowledge about local healthy food sources. 	<ul style="list-style-type: none"> Increased community capacity to address local food issues. Improved availability of local, healthy food. 	↓
Programs and Services	<ul style="list-style-type: none"> Partner with other sectors to provide healthy eating programs. Provide individualized and group healthy eating programs for at-risk individuals and families, considering optimal intervention points in the life cycle. Collaborate in the provision of food security programs. Assist in the development of employee wellness programs for the health authority and other employers. 	<ul style="list-style-type: none"> Partnerships. Community-based healthy eating programs for priority groups. Wellness programs integrate healthy eating. 	<ul style="list-style-type: none"> Increased community access to healthy eating and wellness programs. Increased opportunities for at-risk groups. 	<ul style="list-style-type: none"> Increased opportunities for healthy eating and good nutrition. 	

APPENDIX 6: PROGRAM SCHEMATIC – MODEL CORE PROGRAM FOR HEALTHY LIVING (PHYSICAL ACTIVITY STRATEGY)

Objectives: Increase physical activity among all populations to improve health and reduce chronic disease.
 Increase the level of physical activity among children and youth for optimal growth and development.

Main Components	Implementation Objectives (Best Practices)	Outputs	Linking Constructs	Short-term Outcomes	Long-term Outcomes
Advocacy and Public Policy	<ul style="list-style-type: none"> Model healthy physical activity within the health authority. Encourage and promote physical activity policies and programs to decision-makers. Promote positive public support for physical activity through the media and other public forums. Advocate with municipal councils and planners for neighbourhood designs that facilitate healthy physical activities. Proactively support access to physical activity opportunities for individuals in need, particularly marginalized groups, through one-on-one advocacy. 	<ul style="list-style-type: none"> Meetings and proposals about improved physical activity policies and programs. 	<ul style="list-style-type: none"> Increased awareness about effective physical activity strategies and best practices. 	<ul style="list-style-type: none"> Improved decision-making to enhance physical activity. Increased number of programs, facilities, bike lanes, trails, etc. 	<p>Improved cardiovascular factors (BP, BMI, Cholesterol)</p> <p>Increased level of physical activity</p> <p style="text-align: center;">↓</p> <p>Improved population health</p>
Public Education, Awareness and Social Marketing	<ul style="list-style-type: none"> Provide educational resources targeted to key professional groups to encourage/assist them in integrating physical activity into client/patient services. Collaborate with major sectors such as the school system and child care centres to enhance their knowledge/ability to provide physical activity programs to children. Develop targeted educational strategies for specific priority populations and key settings (e.g., workplaces, populations with chronic disease or at-risk of chronic disease). Develop a promotion plan to shift attitudes and behaviours. 	<ul style="list-style-type: none"> Information and educational materials. Workshops for health professionals. Training for teachers and child care workers. Social marketing campaigns. 	<ul style="list-style-type: none"> Increased knowledge of, and support for, physical activity among health professionals, worksites and the general public. Increased physical activity programs for children in schools and child care centres. 	<ul style="list-style-type: none"> Improved attitude towards physical activity. 	
Community Capacity Building	<ul style="list-style-type: none"> Facilitate the education, training and support for local organizations (municipal councils, schools, worksites, recreation centres) to plan and organize physical activity initiatives. Encourage an integrated approach among key community groups and sectors to develop a comprehensive community needs assessment and action plan. Facilitate information exchange among partners on best practices, technical advice and other assistance to assist communities in the planning process. 	<ul style="list-style-type: none"> Workshops. Resources/toolkits. Meetings and planning processes. 	<ul style="list-style-type: none"> Increased community capacity to address physical activity needs. Increased collaboration among community groups in planning physical activity. 	<ul style="list-style-type: none"> Enhanced community mobilization and community action plans. 	
Programs and Services	<ul style="list-style-type: none"> Develop and promote effective evidence-based employee wellness programs that integrate physical activity, for the health authority and other organizations. Coordinate, promote and enable the integration of physical activity initiatives into other relevant health care programs. Collaborate with community organizations in delivering targeted programs for priority groups (e.g., children with special needs, chronic disease patients, Aboriginal people, those with low socio-economic status, seniors, etc.). 	<ul style="list-style-type: none"> Partnerships and networks implement plans and programs. Resource materials. Standards and indicators.. 	<ul style="list-style-type: none"> Increased community access to wellness programs that include physical activity. Increased opportunities for at-risk groups. 	<ul style="list-style-type: none"> Increased participation in physical activity. 	

APPENDIX 7: SOURCES OF DATA FOR HEALTHY LIVING INDICATORS

GENERAL INDICATORS

Table 1: General Indicators for Healthy Living Surveillance and Monitoring

ⁱ Canadian Community Health Survey provides data on an HSDA level.

ⁱⁱ Prevalence of diabetes is available from Canadian Community Health Survey on an HSDA and health authority level, by sex, and age groups.

ⁱⁱⁱ Prevalence of Chronic Obstructive Pulmonary Disease is available from the Canadian Community Health Survey on a health authority level.

^{iv} The BC Cancer Agency can generate prevalence data (number of existing cancer cases in the population in a time period) on a health authority level, on request. Incidence data (the number of new cancer cases in a time period) is available from the BC Cancer Agency website, www.bccancer.bc.ca (in the Health Professionals Information section, under Cancer Statistics, Facts and Figures, Regional Statistics).

^v Prevalence of overweight and obesity is provided by Canadian Community Health Survey on a HSDA and health authority level, on a biannual basis.

^{vi} Provincial level data available from Canadian Community Health Survey, cycle 2.2 (Nutrition Survey), every 5 years. Analysis of diagnostic fields in the Ministry of Health hospital and Medical Services Plan data would provide crude estimates on a health authority level.

^{vii} See BC Cancer Agency data, as noted in iii. Above.

^{viii} See BC Cancer Agency data, as noted above.

^{ix} Prevalence of overweight and obesity is provided by CCHS (cycle 2.1) on a HSDA and health authority level, on a biannual basis.

TOBACCO CONTROL

Note regarding tobacco data sources:

- BC STATS collects extensive data on smoking patterns; however, much of it is available only on a provincial level. It is used as the preferred source where it does provide information on a health authority level.
- The Canadian Community Health Survey (CCHS) is a large survey, which in some cases is the only source of data on a health authority level.
- The Canadian Tobacco Use Survey (CTUMS), an annual survey, is based on a relatively small sample size and is valid on a provincial level only.
- The National Population Health Survey (NPHS) also gathers considerable data on smoking patterns. It is a longitudinal study that began in 1994/1995, and is conducted on a bi-annual basis. Because of the diminishing size of the respondent group, it does not provide a complete overview of trends, especially among young people.

Table 2: Indicators for Tobacco Control

^x Initially, health authority will need to gather the information from health facilities to establish baseline data, and thus provide a basis for measuring changes over time.

^{xi} A regularly conducted survey instrument will be required to gather baseline data, and then, to determine reasonable performance targets to achieve appropriate goals over time.

^{xii} BC STATS gathers this information in their Community Health Education and Social Services (CHESS) Survey. It is available on a health authority level. HAs would need to identify baseline data in order to determine specific goals and measure changes over time.

^{xiii} Both the CCHS and the Youth Smoking Survey (1994, 2002, 2004) gather this information.

Table 3: Indicators for Tobacco Control – Prevention (Enforcement) and Cessation (Clinical Services)

^{xiv} Health Canada gathers this information (http://www.hc-sc.gc.ca/hl-vs/tobac/research-recherche/eval/2005/index_e.html)

^{xv} QuitNow usage data is available from the QuitNow program on a health authority level.

^{xvi} As above, QuitNow usage data is available from the QuitNow program on a health authority level.

Table 4: Indicators for Tobacco Use – Surveillance

^{xvii} Smoking prevalence rates are collected monthly by BC Stats from the Community Health Education and Social Services (CHESS) Survey. Daily and occasional smokers are grouped together in the survey results as “current smokers”. Tobacco use in the survey refers only to cigarette smoking. Health authorities will need to identify baseline data as a basis for determining specific goals and measuring changes over time.

^{xviii} BC STATS CHESS survey records 12-month rolling averages for the age of initiation for youth smokers, on a health authority level.

^{xix} Canadian Community Health Survey (CCHS) data is the only current source for cessation rates on a health authority level (BC STATS is working to develop this data). CCHS is conducted through a telephone survey. HAS will need to gather baseline data to determine the current level of cessation in their area.

^{xx} BC STATS gathers this information from its CHESS Survey, on a health authority level.

^{xxi} The Smoking-Attributable Mortality (SAM) rate is derived by the BC Ministry of Health, Vital Statistics Agency by calculating the proportion of SAM to the total number of deaths. The data is available in BC Vital Statistics Annual Reports.

HEALTHY EATING

Table 5: Indicators for Healthy Eating

^{xxii} A “healthy food policy and action plan” is a formal policy / plan which focuses on increasing access to nutritional needs, food security, and healthy weights.

^{xxiii} A baseline survey conducted by Ministry of Education in Spring 2005, will be conducted periodically (possibly annually) to collect this information.

^{xxiv} PHSA is gathering information on the Number of municipalities and regions with healthy food policies, on an annual basis.

^{xxv} A health authority survey instrument would be required to gather baseline data, and then, to determine reasonable performance targets to achieve appropriate goals over time.

^{xxvi} A survey of programs within the health authority will be required to estimate the Percentage of employees who have access to an employee wellness program that incorporates healthy eating.

^{xxvii} A review of health authority programs will be required to determine whether targeted programs for priority populations are provided.

^{xxviii} The provincial Dial-A-Dietitian (<http://www.dialadietitian.com>) program collects data on the number of calls, on a semi-annual basis (October and May), by region.

Table 6: Indicators for Healthy Eating – Surveillance

^{xxix} Canadian Community Health Survey collects information on fruit and vegetable consumption; sample size is meaningful on a HSDA and health authority level.

^{xxx} The Canadian Community Health Survey collects this information biannually; sample size is meaningful to a sub-regional level in health authorities.

^{xxxi} Health authority income levels may be identified from *Statistics Canada Low-Income Cutoff Data*.

^{xxxii} Provincial level data only is available; it is gathered and published annually in *The Cost of Eating in BC*, published by the Dietitians of Canada, BC Region and the Community Nutritionists Council of BC.

^{xxxiii} Canadian Community Health Survey collects this food security data biannually; sample size is meaningful to a sub-regional level in health authorities. CCHS collects the data for both children over 12, and for adults.

PHYSICAL ACTIVITY

Table 7: Indicators for Physical Activity

^{xxxiv} A survey instrument would be required to gather baseline data, and then, to determine reasonable performance targets to achieve appropriate goals over time.

^{xxxv} *BC Nutrition Survey*, conducted on an irregular basis by Ministry of Health, Health Canada, and the University of British Columbia.

^{xxxvi} Data (updated monthly) on ActNowBC “active communities” is available from BCRPA website (www.bcrpa.bc.ca)

^{xxxvii} Data available on “Action Schools” (a best practice model to assist BC elementary schools in creating individualized school action plans to promote physical activity) website, www.actionschoolsbc.ca. Statistics are updated monthly on a provincial and HSDA level are provided.

Table 8: Indicators for Physical Activity – Surveillance

^{xxxviii} Canadian Community Health Survey provides data on an HSDA level and health authority level.