

What Influences our Health?



Chapter Highlights:

For years, it was believed that the availability of conventional health care services, including hospitals and physicians, was the most important factor influencing health. Over the past few decades, however, there has been a growing consensus that our health is also influenced by other factors. The term *determinants of health* is used to refer to the many factors thought to contribute to the health of populations. They include our social and economic environment, our physical environment (which is the focus of this report), our personal health practices, our individual capacity and coping skills, the availability of health services, and other factors such as our gender and culture. For example:

- Unemployment and underemployment are associated with poorer health. Stress-related work demands, such as the pace of work, freedom to make decisions and frequency of deadlines, can also have an influence. Health status improves with income level, which relates to the ability to pay for basic necessities, such as adequate food and housing. Higher education is also associated with above-average health status, in part because it leads to more satisfying jobs and higher incomes.
- Emotional support from family, friends and communities can help individuals cope with health-related problems or with issues that may result in health-related problems.
- The physical and emotional care that children receive at a young age can influence their health and coping skills for the rest of their lives. A low weight at birth (under 2500 g) is often followed by health problems in childhood and adulthood.
- Contaminants of both natural and human origin are found in our air, water, food and soil and can have many adverse effects on human health, including cancer, birth defects and respiratory and gastrointestinal illness. In the human-built environment, factors related to housing, the design of communities and transportation systems can influence our psychological and physical well-being. The extent to which natural resources such as agricultural soils, forests, fuel and wildlife are being protected for future generations is also important, especially for our emotional health and the health of our economy.
- Certain lifestyles and personal behaviours can damage our health. For example, both smoking and the abuse of alcohol are associated with an increased incidence of cancer. Other lifestyles and behaviours can improve our health, including regular physical activity and eating a balanced diet.
- Our ability to deal with adverse situations, such as a serious disease or job loss, can influence the way in which these situations affect physical and emotional health.
- Genetic make-up can determine whether we develop inherited disorders and can influence resistance to disease and general level of healthiness.
- The quality and availability of health services can also influence our health status—particularly the degree of access to health services that effectively protect health, promote healthy living, prevent disease, relieve pain and suffering, restore well-being and function and provide compassionate care for the vulnerable.
- Gender and cultural background can affect how we are treated and accepted within society, which can in turn influence our health status.

A *population health* approach to health care addresses all of the factors that contribute to health and their complex interactions, both in the population as a whole and in specific subgroups. Population health addresses not only the physiological, psychological and behavioural components of health, but also the entire range of elements that contribute to the physical, mental and social well-being of Canadians. To ensure that key issues are addressed from all perspectives, Health Canada's approach to population health stresses partnerships with voluntary, professional, business, consumer and labour organizations, as well as all levels of government.

WHAT INFLUENCES OUR HEALTH?

Introduction

Our mission is to help the people of Canada maintain and improve their health.

Health Canada

Our concept of health has broadened over the past century, from the narrow view of health as the absence of disease or other physical problems to a more inclusive concept, emphasizing social and personal resources as well as physical capabilities. Health is now commonly thought of as a complete state of physical, mental and social well-being. A key part of health is thought to be the ability to realize hopes, to satisfy needs and to change or cope with the environment.¹

For years, it was believed that the availability of conventional health care services, including hospitals and

physicians, was the most important factor influencing health. Over the past few decades, however, there has been greater emphasis on social factors and an improved understanding of other factors that keep us healthy and make us well. As a result, we now recognize the importance of lifestyle and the role of environmental, social, economic and political factors.² From this realization, the concept of *population health* has emerged.

This chapter provides an overview of the *population health* concept, discusses how health status may be measured using *indicators* and describes the types of factors or *determinants* that influence health. The chapter also provides some information on the current health status of Canadians and describes Health Canada's approach to population health.

"...Canadians can achieve further improvements in their well-being through combining individual lifestyles that emphasize fitness, prevention, and health promotion with collective action against the social, environmental, and occupational causes of disease, and they desire a system of health services that will promote such physical and mental health and such protection against disease."³

What Is Population Health?

The term *population health* describes an approach that focusses on the health of the population as a whole, and of subgroups within the population, by addressing the entire range of factors that contribute to health as well as the complex interactions that exist among them. Conventional medical and health care approaches, in contrast, focus on the health of individuals, on particular diseases and on responding to illness through direct patient care.^{2,4,5}

What Are Determinants of Health?

The term *determinants of health* is a collective label given to the multiple factors that are now thought to contribute to the health of populations. They include things such as people's biological endowment and individual responses, the social and physical environment in which they live, the economic conditions of their society in terms of productivity and wealth, and the accessibility and quality of the health care system.²

Although organizations involved in health protection and promotion recognize that health is affected by many factors, there is no consensus about their specific nature or their relative importance. The list of health determinants being used within Health Canada is based on previously proposed concepts^{4,8,9} and provides a starting point for developing future population health policies and for identifying related research directions.²

How Can Health Status Be Measured?

Health indicators are statistics or other measures that can show the existence, presence, nature or effects of health determinants. Health status indicators can provide information on the health of individuals and thus of the overall population.¹ They can also provide information that helps identify the influence of specific determinants



Underlying Assumptions of the Population Health Approach^{2,7}

- Health refers to all aspects of well-being: physical, mental, social, emotional and spiritual. Health is a dynamic process that affects the extent to which an individual or group can satisfy needs, realize aspirations and change or cope with the environment.⁶
 - Health is determined by the complex interactions among individual characteristics, social and economic factors and the physical environment.
 - The health of a population is closely linked to the distribution of wealth across the population.
 - Strategies to improve population health must address the entire range of factors that determine health.
 - Important health gains can be achieved by focussing attention on the health of the entire population (or significant subpopulations) rather than on individuals.
 - Improving health is a shared responsibility that requires the development of healthy public policies in areas outside the traditional health system. Collaboration, partnerships and multidisciplinary approaches are required to improve both health and the environment.
 - The public must be provided with access to correct information about environmental issues, environmental health risks and the relationships between health and the environment.
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on the health of a population. For example, hospital admission rates for respiratory illnesses are related to air pollution levels on the previous day.¹⁰

Health status can be measured in terms of general health and well-being, the capacity to function, the existence of disease or other health problems such as disabilities, quality of life, length of life and causes of death. Various methods are used to collect information on health status indicators. Many indicators are based on data that are routinely collected, including population censuses and records of births, deaths and hospitalizations. Surveillance systems are also used to collect data on certain injuries, diseases and conditions, such as communicable diseases, cancer and birth defects, and to track both injury and disease trends and patterns. Surveys are another important source of data and may involve asking people about their health and lifestyles or may consist of physical or psychological tests.¹

Although indicators can provide important information, their limitations must be recognized. First, they are representations rather than precise measures of health status or determinants. As a result, their meaning is sometimes open to interpretation and depends, for example, on how the information is collected and how the indicator is defined. Second, because the identity of all determinants of health and the relationships among them are uncertain, it is often difficult to isolate and measure their effects.¹

Commonly Used Health Status Indicators

Examples of commonly used health status indicators include¹:

Well-being: Indicators of well-being attempt to measure the extent of *positive* health. The term *well-being* involves more than being alive and being able to function. It also implies a certain level of vitality and resistance to disease. Examples of indicators include measures of psychological

well-being, self-esteem, sense of control over our own lives and job satisfaction.

Function: Indicators of functional health focus on the impact of health problems on our everyday lives. Examples of indicators include the proportion of people who are limited in their ability to perform daily tasks, rates of injuries that result in time off work and years of life spent free from disabling health problems.

Diseases and Conditions: The rates at which specific diseases or conditions occur in the general population help to identify ongoing trends and patterns of disease or health problems, such as AIDS, birth defects and cancer. The number of people suffering from a given disease or condition also helps to determine the need for prevention, treatment and support services.

Deaths: Overall death rates, as well as death rates from specific causes, are commonly used to compare the level of health in different populations or of a given population at different points in time. Death rates (commonly called *mortality rates*) can also be used to identify health problems, such as deaths due to smoking or alcohol abuse. Indicators of premature death, such as infant mortality rate and potential years of life lost, focus on deaths that can occur in younger age groups and can theoretically be prevented or postponed.

Length of Life: *Life expectancy*, which refers to the number of years that a person can expect to live, is both a widely used and internationally accepted measure of health status.

What Factors Influence Our Health?

Factors that influence our health can be grouped into five broad categories: social and economic environment, physical environment, personal health practices, individual capacity and coping skills, and health services.^{1,4} The relative importance of the various factors on health has yet to be fully

determined. The impact of the physical environment on our health is the focus of this report.

Social and Economic Environment

Many factors in the social and economic environment can affect health. The most commonly measured factors include employment and working conditions, income and social status and education. Other factors include the availability of social support networks, interpersonal relationships and childhood care and experiences.

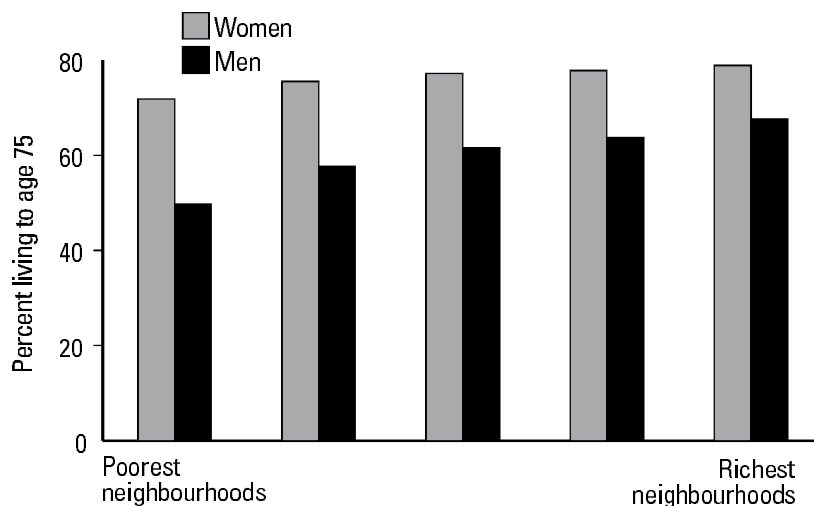
Employment and Working Conditions

Unemployment, underemployment and stressful work are all associated with poorer health. A review of global research by the World Health Organization found that high levels of unemployment and economic instability cause a significant increase in levels of mental illness and also have adverse effects on physical health. These effects occur not only among the unemployed but in their families and communities in general.¹¹ Similarly, a recent review of scientific evidence published in the 1980s and 1990s found a strong association between unemployment and a higher risk of physical or mental illness, the increased use of health care services and an increased incidence of premature death.¹² In general, unemployed people appear to suffer more health-related problems, including psychological distress, anxiety, depression and limitation of activity. They also have larger numbers of hospitalizations and physician visits than do the employed.¹³

Did you know?

In January 1995, there were approximately 22.9 million people in Canada aged 15 and older, of whom about 14.6 million (64%) participated in the labour force; 1.5 million of these (11%) were unemployed.¹⁴

Figure 1
Chances of Living to Age 75,
Urban Canada, 1991



Source: *Report on the Health of Canadians*, prepared for the Meeting of the Ministers of Health, Federal, Provincial and Territorial Advisory Committee on Population Health, 1996, p. 28.

The stress-related demands of one’s job, such as the pace of the work, authority or freedom to make decisions, frequency of deadlines and reporting requirements, can also influence health. Cardiovascular disease, for example, tends to occur more often among individuals with highly demanding jobs, low levels of control over their work and low levels of social support at work.^{14,15}

Income Level and Social Status

Income level also affects health (see Figure 1). Health status improves with increasing income, which influences the ability to pay for safe housing and sufficient nutritious food. Higher income and social status also tend to result in more control and discretion over our lives. Research shows that the degree of control that people have over life circumstances, especially stressful situations, and their discretion to act are key influences on their health status.⁴

Education

Higher levels of education are associated with better health. Education is more strongly related to health status than other factors commonly used to classify individuals, including gender, age and province of residence. Education equips people

According to the 1994/95 National Population Health Survey, university graduates are almost twice as likely as those who have never finished high school to rate their health as excellent and one-third as likely to rate their health as poor.¹⁴

with knowledge and skills for problem solving and helps give a sense of control over life circumstances. Education also increases opportunities for job and income security and job satisfaction. These are key factors influencing health.⁴

Social Support Networks

The availability of emotional support from family and friends (social support networks) and social conditions in schools and workplaces affect health. Support from families, friends and communities can help individuals deal with health-related problems or with issues that may result in health-related problems. Social environments that enable and support healthy choices and lifestyles, as well as people’s knowledge, intentions, behaviours and coping skills for dealing with life in healthy ways, are key influences on health.² The lack of social relationships may have as

important an effect on our health as other risk factors, such as smoking, reduced physical activity, obesity and high blood pressure.¹⁵

Did you know?

In the 1994/95 National Population Health Survey, approximately 83% of Canadians reported having a high level of social support.¹⁴

Childhood Care and Experiences (Healthy Child Development)

Prenatal and early childhood care and experiences, including the quality of parenting, have a powerful effect on long-term health and well-being. Research shows that both the physical and the emotional care that young children receive influence their coping skills and health for the rest of their lives.^{16,17}

Among the measurable indicators of healthy child development are mothers' income and infants' birth weight. A mother's income tends to be related to her infant's birth weight: larger incomes are associated with larger birth weights. This is generally true for mothers at all income levels.¹⁴ In addition to having low birth weights, children born into low-income families are also more likely to eat less nutritious food and have difficulty in school.²

Health problems in childhood and adulthood often follow a low weight at birth (under 2500 g). One Canadian study suggests that low birth weight babies are 40 times more likely to die during their first four weeks of life. Low birth weight babies also have more neurological deficits and birth defects and a higher risk of retarded development.⁴ A recent British study found that men with the lowest weights at birth and at one year of age had the highest premature death rates from heart disease.¹⁴

Did you know?

In 1993, nearly 6% (22 311) of Canadian newborns were underweight.¹⁸ Over half of these involved premature births (those before the 37th week of

pregnancy). The rest were due to insufficient nourishment in the womb, pregnancy-induced hypertension (preeclampsia) or heavy smoking by the mother during pregnancy.¹⁴

Physical Environment

The safety, quality and sustainability of our physical environments, both natural and human-made, are important health determinants. At certain levels, contaminants in the air, water, food and soil that constitute the natural environment can have many adverse health effects, such as cancer, birth defects, respiratory illness and gastrointestinal ailments. Factors in the human-made or *built* environment (i.e. those environments that are created, or at least significantly modified, by people) can also affect our psychological and physical well-being. These factors include housing, the design of communities and transportation systems. The extent to which we sustain our natural resources—including fuel, forests and wildlife—for future generations is also important, especially in terms of our emotional health (e.g. the opportunity to enjoy nature) and the effect of natural resources on the economy.^{1,2,4}

Personal Health Practices

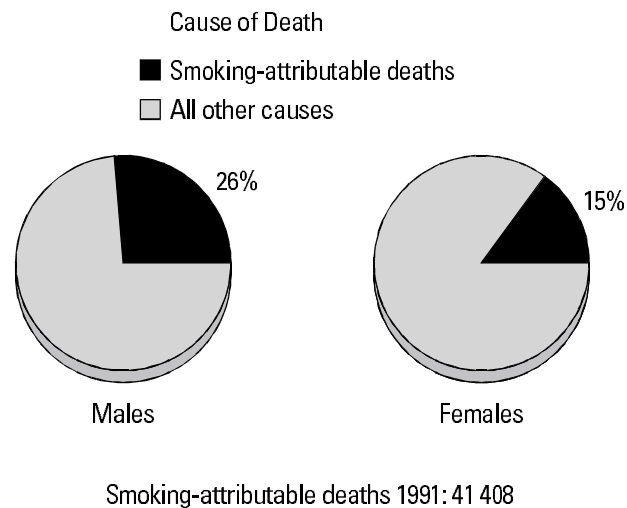
Certain lifestyles and personal behaviours can damage our health. For example, smoking and the abuse of alcohol are associated with an increased incidence of specific diseases, such as cancer. Physical activity, in contrast, can improve overall health. Eating habits and sexual practices can also affect a person's health.

For many years, exposure to tobacco smoke has been widely regarded as the major preventable cause of illness and death in industrial countries.¹⁹ This includes both active smoking (in which smoke is inhaled directly from a cigarette, cigar or pipe) and passive smoking (in which bystanders or smokers inhale the smoke from the burning tip of a cigarette, cigar or pipe or exhaled smoke). Smoking has been estimated to cause at least one-fifth of all deaths in Canada each year among people between the ages of 35 and 84^{14,20} and is responsible for over 40 000 deaths in Canada annually (see Figure 2).²¹ It is estimated that more than 300 non-smokers in Canada die of lung cancer each year, caused by a lifetime of exposure to other people's tobacco smoke.²²

The adverse health effects from alcohol use depend on the frequency of drinking and the amount consumed. A Health Canada study attributed 18 624 deaths that occurred in 1990 to alcohol use. About 16% of these deaths were directly related to alcohol consumption, including deaths from chronic liver disease, cirrhosis and alcohol-related mental disorders. About 10% resulted from motor vehicle crashes involving alcohol consumption. In the remaining 74% of these deaths, alcohol consumption was one of a number of factors. The deaths resulted from such things as tumours, diseases of the circulatory and respiratory systems, falls, fires, drowning, suicides and homicides.²³



Figure 2
Percent of Deaths Due to Smoking,
Canada, 1991



Source: *Report on the Health of Canadians*, prepared for the Meeting of the Ministers of Health, Federal, Provincial and Territorial Advisory Committee on Population Health, 1996, p. 33.

Fat consumption is considered a primary risk factor in some of the leading causes of death, particularly cancer and coronary heart disease, whereas the consumption of vegetable fibre may reduce the risk of these diseases. Regular exercise also provides measurable health benefits, including stress reduction, weight control and a reduced risk of such diseases as osteoporosis, cancer, diabetes and coronary heart disease.²⁴

Did you know?

Most Canadians do not exercise regularly. Fifty-eight percent of respondents in the 1994/95 National Population Health Survey viewed themselves as inactive. Twenty percent considered themselves active, whereas another 22% felt that they were moderately active. Although not involved in formal programs, many Canadians do get exercise by participating in informal activities, such as walking and gardening.²⁵

Individual Capacity and Coping Skills

Coping skills are those that people use to interact with the world around them and to deal with specific stresses and challenges in their daily lives. Having effective coping skills can help people to be self-reliant, to resolve difficulties and to make choices that contribute to healthy lifestyles. Our ability to deal with adverse situations, such as a serious disease or job loss, can influence the way in which these situations affect our physical and emotional health.^{1,2,4}

A person's genetic make-up can also influence health through, for example, its effect on inherited disorders, general fitness and resistance to disease. Despite efforts to examine the relationship of genetics to health more closely, there are few genetic indicators that are widely used to assess the health status of populations.^{1,2}

Did you know?

About 1 in 20 000 infants are born with a metabolic disorder called phenylketonuria (PKU), which can lead to severe mental retardation. Fortunately, this result can be avoided by placing the newborn on a diet that contains low levels of the amino acid phenylalanine.²⁶ Infants are routinely checked for PKU shortly after birth in Canadian hospitals.

Health Services

The degree of access to services that effectively protect health, promote healthy living, prevent disease, relieve pain and suffering, restore well-being and function and provide compassionate care for the vulnerable can influence one's health. For example, preventative and primary health care services such as prenatal care, well-baby clinics (which provide regular check-ups for healthy infants) and immunization are very important for maternal and child health. Similarly, health promotion services that educate children and adults about health risks and healthy lifestyle choices are valuable tools to encourage healthy living.⁴

Information is available on the benefits of some health services, such as the early detection of breast and cervical cancers and the use of bypass surgery to treat heart attacks and related cardiovascular diseases. However, there are gaps in information about the relationship between many health services and overall health status and quality of life.^{2,4}

Other Factors

The broad influences of gender and culture can affect levels of health risk through the overall treatment and acceptance of individuals within a society. Many health issues are related to gender-based social status or roles. For example, more women than men are subject to low incomes, single parenthood and inactivity. People or groups from certain cultures may experience stigmatization, devaluation or loss of language and culture and lack of access to culturally appropriate health care and services.²

How Healthy Are We?

The Federal, Provincial and Territorial Advisory Committee on Population Health¹ recently published a document entitled *Report on the Health of Canadians*. This document contains information on the health status of Canadians based on a number of indicators, describes differences between particular groups in society and compares the health of Canadians with that of people in other countries. The report also provides information on determinants of health and suggests how to improve the health status of Canadians and reduce current inequalities. Highlights from the report are summarized in this section.

How healthy are we? A number of indicators suggest that our health is improving. For example:

- We are living longer. On average, a baby girl born in Canada today can expect to live for about 81 years, whereas a baby boy can expect to live for about 75 years. This represents an increase of about 20 years for females and 16 years for males since the early 1920s.²⁷ A child born in 1991 can expect to spend about 90% of his or her life span free from disabling health problems.
- Fewer infants are dying in their first year of life. Thanks to better health care before and after birth and better nutrition and living standards, the infant mortality rate (deaths under age one as a percentage of all births) has dropped by over 82% since the early 1950s.²⁷ Unfortunately, about 6 out of every 1000 newborns still die before their first birthday.
- Early deaths from injuries and heart disease have declined, as have death rates for many other diseases. This is partly because some diseases are occurring less often and also because medical treatments are improving.

Other indicators, however, suggest that our health is stabilizing or worsening. For example:

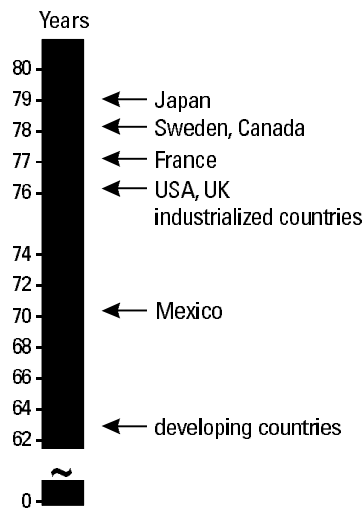
- The rate of low birth weight babies (under 2500 g or about 5.5 pounds) has not changed significantly since the 1980s. In 1993, about 5.7% of all babies born in Canada had low birth weights.
- The percentage of Canadians who rate their health as excellent (about 25%) has remained the same for the past 10 years.
- Over the past few decades, more Canadians have become overweight, more have had to limit regular activities for health reasons and fewer have expressed satisfaction with their jobs.

Although overall health tends to be good in Canada, differences do exist between certain segments of society. Differences in health status are related to age, gender, income level, education and geographic region.

Whereas older people experience a decrease in physical health and abilities with age, younger people tend to experience more stress and depression and have lower psychological well-being and job satisfaction. In addition, many determinants of health suggest that women tend to be healthier than men. For example, women live an average of six years longer and have more years without disabling health problems. However, compared with men, women also tend to have lower psychological well-being and self-rated health and higher levels of stress and depression. Employed individuals and those with higher incomes and education levels tend to be healthier than those who are unemployed and those who have lower incomes and education levels. Residents of western Canada tend to be healthier than those of Atlantic Canada, based on life expectancy and mortality rates. These indicators also show that residents of the Yukon and Northwest Territories tend to have poorer health than residents of the 10 provinces.

How does Canada compare with the rest of the world? Our average life expectancy is among the highest in the world (see Figure 3), whereas our rate of infant deaths is among the lowest. However, compared with some industrialized countries, Canada has higher rates of diseases such as AIDS, more occupational injuries per capita and more low birth weight babies.

Figure 3
Life Expectancy, 1993



Source: *Report on the Health of Canadians*, prepared for the Meeting of the Ministers of Health, Federal, Provincial and Territorial Advisory Committee on Population Health, 1996, p. 22.

Health Canada's Approach to Population Health

The broad scope of a population health approach considers and targets not only health behaviours, but also factors in the social, physical and economic environments that contribute to health. The success of a population health approach is largely dependent upon the extent to which other sectors understand and act on the health implications of their policies and programs.

The concept of population health has a long history at Health Canada, as reflected in two landmark documents: the 1974 document *A New Perspective on the Health of Canadians*²⁸ and the 1986 paper *Achieving Health for All*.²⁹

The Department's current population health strategy stresses collaboration between different sectors of society, as many of the determinants of health fall outside the traditional health sector. For example, sectors such as industry, labour, employment and education must be involved to address environmental, social and economic concerns that have an impact on our health. To ensure that key issues are addressed from all perspectives, Health Canada works with representatives from voluntary, professional, business, consumer and labour organizations, as well as all levels of government. The end result is an improvement in the conditions affecting the physical environment, which ultimately results in better health for all Canadians.

The Community Animation Program and the Active Living and the Environment Program (ALEP) are two examples of what can be achieved through collaboration. The Community Animation Program is co-ordinated through Health Canada and Environment Canada regional offices. This program helps communities develop the capacity, through multisectoral partnerships, to address health and environment issues, such as air quality, water quality and the use of pesticides. Similarly, ALEP, through multisectoral partnerships at all levels, promoted active living through a variety of initiatives, including walk to school programs and improvements to urban infrastructure, such as bicycle lanes and walking paths, public education and awareness and a community-based recognition program.

"Health Canada sees a renewed national health system that is based on a health determinants approach to population health, that manages risks to the health of Canadians, and that ensures universal access to appropriate and cost-effective health care. This vision is sustained by national leadership and partnerships, and the provision of timely, responsive and evidence-based advice and action on health issues."²
