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The Population Health Template:

Key Elements and Actions That Define A Population Health Approach

*This report has been developed by the Strategic Policy Directorate of
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*Health Canada
Population and Public Health Branch
Strategic Policy Directorate*

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

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I. Aim and Use of the Population Health Template

The *Population Health Template* organizes and consolidates current understandings of population health. The template outlines the procedures and processes required to implement a population health approach. It provides guideposts that help to assess preparedness and capacity to implement population health initiatives. Building on advances in health promotion and public health, the *Population Health Template* is a resource for people in health and other sectors who strive to improve the health of populations.

The *Population Health Template* can be used by multiple groups for various purposes:

- *Policy makers and program planners* can use the template to guide and direct policy and program development so that initiatives reflect population health key elements.
- The template supports *health educators* in the development of training curriculum and materials that reinforce and promote population health approaches.
- The template can offer *evaluators* a set of criteria for evaluating health-related programs against population health key elements.
- *Grant reviewers and writers* can use the template to assess the degree to which funding proposals align with population health concepts.
- Among *researchers and academics*, the template can serve as a testing field for population-health related assumptions and hypotheses (and thereby, advance theory), as well as support the development of population health models and instruments.

Health Canada has identified population health as a key concept and approach for policy and program development aimed at improving the health of Canadians. The concepts and ideas presented in this paper support Health Canada's initiative to promote a population health approach in Canada.

The overarching aim of this paper is to develop and advance our understanding of a population health approach and to spark debate and discussion about the nature of a population health approach and how it can be implemented. Because the paper sets forth the outside parameters of a population health approach, it is detailed and comprehensive. To support operationalization of a population health approach, an application tool, which summarizes the key concepts of this paper, has also been developed.

II. Population Health: Definition and Background

Today, much of the discourse on health occurs under the rubric of “population health” which has evolved over the past two decades and builds on a long tradition of public health, community health and health promotion. Dating back to the early 1970’s, Canada has played a leading role in the development of the population health concept through its internationally acclaimed work in the area of health promotion. Canada’s reputation is grounded in its strong contribution to community health, health advocacy, healthy public policy, and the Healthy Cities/Communities movement⁽²²⁾.

Our current understandings of population health reflect the evolution of our thinking related to the definition of “health”. We acknowledge that health is a capacity or resource for everyday living that enables us to pursue our goals, acquire skills and education, grow and satisfy personal aspirations^(2,26). This view of health provides the foundation for our understanding of a population health approach, which recognizes that multiple factors and conditions contribute to health. In 1997, the Federal, Provincial, Territorial Advisory Committee on Population Health defined population health as follows:

Population health refers to the health of a population as measured by health status indicators and as influenced by social, economic and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development, and health services.

As an approach, population health focuses on the interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in their patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations.

A population health approach addresses the entire range of individual and collective factors that determine health. Population health strategies are designed to affect whole groups or populations of people. The overarching goals of a population health approach are to maintain and improve the health status of the entire population and to reduce inequities in health status between population groups.

The outcomes or benefits of a population health approach extend beyond improved health status outcomes. A healthier population makes more productive contributions to overall societal development, requires less support in the form of health care and social benefits, and is better able to support and sustain itself over the long term⁽¹⁷⁾. Actions that bring about positive health also bring wider social, economic and environmental benefits for the population at large. They include a sustainable and equitable health care system, strengthened social cohesion and citizen engagement, increased national growth and productivity and improved quality of life.

Population Health Context and Background

Several publications and documents trace the evolution of health promotion and population health and account for our current understanding of what makes and keeps people healthy. The release of the internationally renowned Lalonde report¹ in 1974, *A New Perspective on the Health of Canadians*⁽³²⁾, followed by *Achieving Health for All: A Framework for Health Promotion*²⁽⁷⁾, and the *Ottawa Charter for Health Promotion*³⁽³⁾, broadened Canadians' understanding of the multiple factors and actions that contribute to health.

In 1994 the Federal/Provincial/Territorial Advisory Committee on Population Health prepared a discussion paper entitled, *Strategies for Population Health: Investing in the Health of Canadians*, which set the stage for a national discussion on population health. It also signalled the official endorsement of the population health approach in Canada. Since then, government efforts in advancing population health have been augmented by the work of several “think tanks” across Canada, most notably the Canadian Institute for Advanced Research (CIAR). CIAR's Population Health Program received international recognition for the development of a conceptual framework which synthesized knowledge from a wide range of disciplines and recognized the complex and interactive factors that influence health.

More recently, the Federal/Provincial/Territorial Advisory Committee on Population Health prepared the *First Report on the Health of Canadians* (1996)⁽²³⁾, which provided a general reporting framework on the health of Canadians and represented the first step toward a comprehensive assessment of the health of the population. Later, in 1999, the Committee released, *Toward a Healthy Future: Second Report on the Health of Canadians*. This landmark public policy report takes a population health approach in its organization and analysis. It examines health status and the major factors or “determinants” that influence the health of Canadians at all ages and discusses the implications of the findings for policy, practice and research. The report identifies priority areas for action and relevant strategies in each area that can be used by multiple players at the federal, provincial and territorial level. Finally, a position paper entitled, *Taking Action on Population Health*⁽²⁶⁾ (www.population-health.com) was developed by Health Canada to provide employees with a better understanding of a population health approach.

Goals of a Population Health Approach

- ◆ To maintain and improve the health status of the entire population
- ◆ To reduce inequities in health status between population groups

Interest in population health approaches are not unique to Canada. International examples include:

- The World Health Organization Regional Office for Europe (WHO/Euro) has undertaken the “Verona Initiative” to secure broader dissemination and uptake of WHO/Euro's “Investments for Health” approach. It has produced *The Verona Benchmark*, which identifies the system characteristics that a country, region or local area should have in order to develop, implement, sustain and improve

The Population Health Template:

the health of the population through an intersectoral investment in health strategy.

- A key priority area for Australia's Population Health Division in 2000-2001 is effective integration of a population health approach within the wider Australian health system and partnership with the *National Public Health Partnership*. The Partnership was established to improve and strengthen public health efforts through approaches which focus on whole populations. Priorities are to reduce disparities in health status between social groups and to influence the underlying social, economic, physical and biological determinants.
- In Great Britain, the white paper, *Our Healthier Nation*, sets out a determinants of health approach to public health and forms the basis of several government reports that identify policies that are intended to have an impact on health determinants. These include an *Independent Inquiry into Inequalities in Health* and the Health Development Agency's *Policy, Inequalities and Public Health*.
- The Working Party on Social Policy of the OECD (Organization for Economic Cooperation and Development) has started a project on *Population Health Investment Policies*, an examination of the role played by structures, financing systems and evidence in supporting a population based health advancement approach.

III. Structure of the Population Health Template

As noted above, the *Population Health Template* is comprehensive in that it consolidates key knowledge in this area. It is not, however, exhaustive; that is, the template cannot claim to be inclusive of all possible dimensions of a population health approach. This is largely a reflection of the evolutionary nature of this field of study. The template will continue to evolve and undergo adjustment and refinement as it is applied across time and settings.

The *Population Health Template* consists of two principal components, the *Key Elements* and *Actions*. The key elements are all necessary for implementation of a population health approach and the actions provide an elaboration of the required actions for mobilization. A definition and rationale for each key element and its associated actions is included in the text of the template.

A. Key Elements

The *Population Health Template* consists of eight **key elements**. They are: (1) focus on the health of populations, (2) address the determinants of health and their interactions, (3) base decisions on evidence, (4) increase upstream investments, (5) apply multiple strategies, (6) collaborate across sectors and levels, (7) employ mechanisms for public involvement, and (8) demonstrate accountability for health outcomes. While *all eight elements are necessary* for implementing a population health approach, key elements one and two are unique to the definition of a population health approach and key elements three to eight reflect implications of a population health approach and factors associated with good management practices. The eight key elements are presented in the figure below.

The Population Health Template:

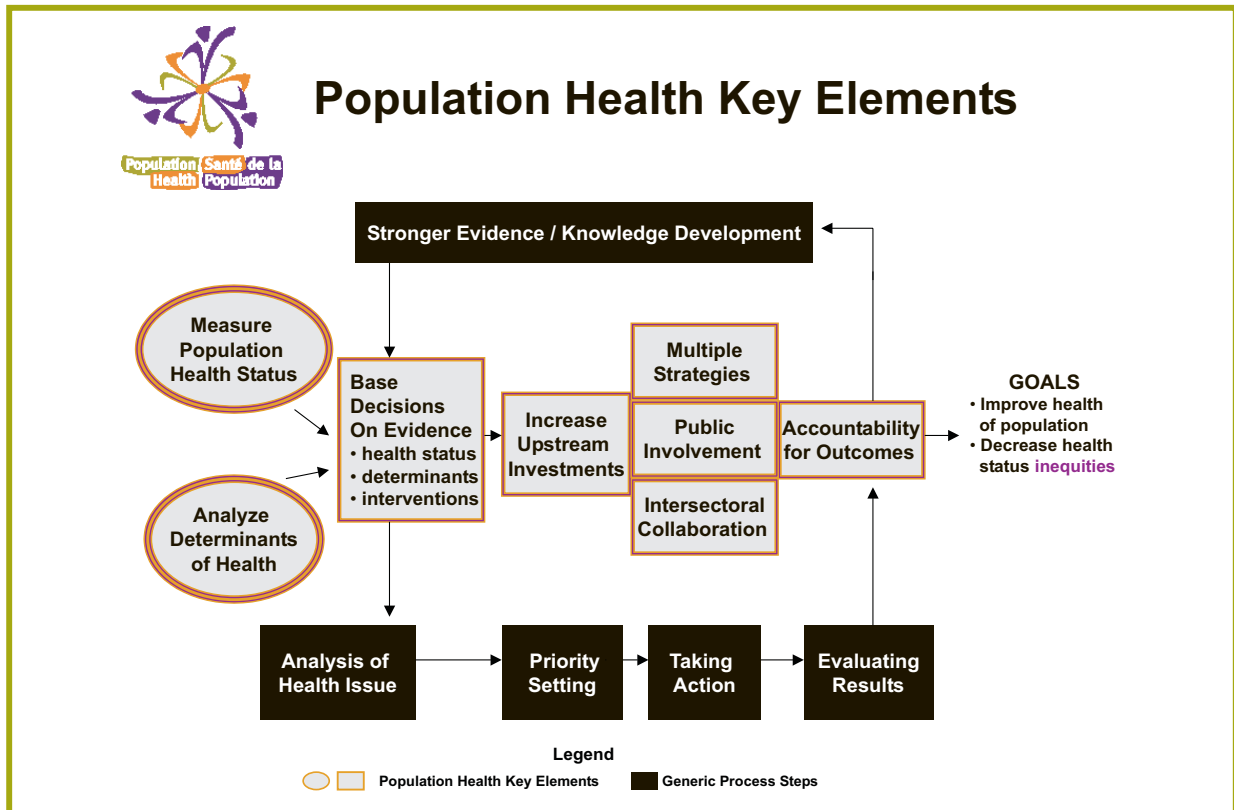


Figure 1. Population Health Key Elements

B. Actions

Each of the key elements that comprise the template is further elaborated with a description and rationale of required actions to mobilize a population health approach. Both the key elements and actions are summarized in the following table. While every effort was made to ensure mutual exclusivity of the actions, some redundancy exists due to repeated reference to core features such as working intersectorally and addressing the multiple determinants of health.

Please note that it is not necessary for any one organization itself to carry out all the actions; the actions may be taken by a variety of players. A user-friendly application tool which draws on the key concepts of this paper, has been developed. Following the overview table is a detailed discussion of the template's components.

Key Elements and Actions that Define a Population Health Approach

Summary Table of Population Health Key Elements

The goals of a population health approach are to maintain and improve the health status of the entire population and to reduce inequities in health status between population groups.

Key Element	Actions
1. Focus on the Health of Populations	1.1 Determine indicators for measuring health status 1.2 Measure and analyze population health status and health status inequities to identify health issues 1.3 Assess contextual conditions, characteristics and trends
2. Address the Determinants of Health and Their Interactions	2.1 Determine indicators for measuring the determinants of health 2.2 Measure and analyze the determinants of health, and their interactions, to link health issues to their determinants
3. Base Decisions on Evidence	3.1 Use best evidence available at all stages of policy and program development 3.2 Explain criteria for including or excluding evidence 3.3 Draw on a variety of data 3.4 Generate data through mixed research methods 3.5 Identify and assess effective interventions 3.6 Disseminate research findings and facilitate policy uptake
4. Increase Upstream Investments	4.1 Apply criteria to select priorities for investment 4.2 Balance short and long term investments 4.3 Influence investments in other sectors
5. Apply Multiple Strategies	5.1 Identify scope of action for interventions 5.2 Take action on the determinants of health and their interactions 5.3 Implement strategies to reduce inequities in health status between population groups 5.4 Apply a comprehensive mix of interventions and strategies 5.5 Apply interventions that address health issues in an integrated way 5.6 Apply methods to improve health over the life span 5.7 Act in multiple settings 5.8 Establish a coordinating mechanism to guide interventions
6. Collaborate Across Sectors and Levels	6.1 Engage partners early on to establish shared values and alignment of purpose 6.2 Establish concrete objectives and focus on visible results 6.3 Identify and support a champion 6.4 Invest in the alliance building process 6.5 Generate political support and build on positive factors in the policy environment 6.6 Share leadership, accountability and rewards among partners
7. Employ Mechanisms for Public Involvement	7.1 Capture the public's interest 7.2 Contribute to health literacy 7.3 Apply public involvement strategies that link to overarching purpose
8. Demonstrate Accountability for Health Outcomes	8.1 Construct a results-based accountability framework 8.2 Ascertain baseline measures and set targets for health improvement 8.3 Institutionalize effective evaluation systems 8.4 Promote the use of health impact assessment tools 8.5 Publicly report results

IV. Population Health Key Elements Full Text Template

Key

Element 1: *Focus on the Health of Populations*

A population health approach assesses health status and health status inequities over the lifespan at the aggregate or population level.

Definition and Rationale for Key Element 1

A population health approach assesses health status and health status inequities of the population as a whole (as well as groups within it), as characterized by geography, age, gender, culture or other defining features, over the lifespan. The approach measures population health consistently over time, across jurisdictions, and across health issues. It captures not only illness and injury, but the positive dimensions of health (for example, fitness). It also links measures of health status with measures of the determinants of health to show how they interact (see Key Element 2). While *populations* rather than individuals are the unit of analysis, actions for health improvement – based on the best available evidence – occur along the entire population spectrum at the national, provincial, regional, community, family and individual levels (see Key Element 5).

Actions To Mobilize Key Element 1

1.1 Determine indicators for measuring health status

A population health approach establishes indicators for the health status of the population as a whole and/or population groups. Health indicators are designed to provide comparable information from the health region to provincial/territorial and national levels, and are based on standard definitions and methods. Indicators facilitate measurement of change or progress.

The most common indicators of health status to date have been mortality (e.g. infant mortality, life expectancy, cancer deaths, suicide, unintentional injury deaths, AIDS deaths) and, to a lesser extent rates of hospitalization. Although these are critical, they only provide part of the population health picture. This picture needs to be balanced with better measures of morbidity: causes of decreased quality of life through chronic health problems or disability; and most importantly, measures of the positive dimensions of health. In some cases, indicator information is available or just needs to be made more accessible. In other cases, new research needs to be conducted in order to generate the information needed.

Key Elements and Actions that Define a Population Health Approach

A critical step in strengthening the measurement of population health is the development of a new generation of indicators, called “aggregate health indicators”, which combine data on mortality, loss of function and quality of life so that very different issues can be compared in a consistent way. These “aggregate health indicators” will allow us to rationally compare the impact of very different health issues and strategies, and to understand better how various factors interact to strengthen or undermine health. These include “Disability-Adjusted Life Years” (DALYs), “Health-Adjusted Life Expectancy” (HALE) and Quality-Adjusted Life Years (QALYs). These measures respond to a key health policy challenge facing Western industrialized nations: that some health interventions may be adding years of sickness to life, rather than years of health.

1.2 Measure and analyze population health status and health status inequities to identify health issues

Measuring population health status identifies emerging health issues, long-term challenges and informs the choice among competing priorities. Measuring population health status answers the questions: “How healthy is the population and is their health improving?”, “Who is healthy and who is not?”, “What can we learn from current trends in health status to help prepare for the future?” and “What are the key health issues?” To select rational priorities for intervention and to assess progress in improving health, it is necessary to measure and compare the health status of the population over time and across the lifespan. The life cycle is fundamental to the study of health status because it is the basis of biological change in all individual organisms.

Population-based surveillance is the systematic collection, analysis and interpretation of data necessary for population health planning, implementation and evaluation⁽⁴⁷⁾. Ongoing surveillance is particularly useful for uncovering inequities in health status among population groups. Population-based information systems include health status indicators (e.g. life expectancy, self-rated life stress and cardiovascular disease), epidemiological data, socioeconomic data, and health service use data.

While there is a need to implement new aggregate health indicators in Canada, there are major sources of data currently available (e.g. the National Population Health Survey) that can be used to identify key health issues requiring immediate action and to obtain an evidence-based quantitative ranking of health issues. These include the leading causes of death, hospitalization, and potential years of life lost (PYLL); the most common notifiable diseases; the chronic conditions most often reported in the National Population Health Survey (NPHS); and the NPHS factors most closely correlated with loss of autonomy, on one hand, or continued good health, on the other. For some health issues development of new surveys is indicated, but if too costly or labour intensive to implement, other methods can be considered. For example, existing surveys or census questionnaires can be augmented with specific questions to collect fuller data sets that include socioeconomic risks and conditions. Health management or administrative data also provide useful surveillance information in the absence of or in lieu of primary data collection through population-based surveys.

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Another major source of data currently available is *Health Indicators*. This is a free electronic publication available on the Statistics Canada and Canadian Institute for Health Information websites. It provides a set of indicators organized into four categories: health status (including health conditions, mortality rates, measures of well-being); non-medical determinants of health (socio-economic characteristics and health behaviour); health system performance (measures of accessibility, appropriateness, effectiveness of health care services); and, community and health system characteristics (contextual information). Local data related to these indicators is available at the Regional Health Authority level across Canada.

1.3 Assess contextual conditions, characteristics and trends

Human populations exist within macro environments characterized by prevailing conditions and circumstances that may influence efforts to mobilize a population health approach. Strong political commitment is an important ingredient. However, governments and health sectors are seemingly more willing to initiate population health initiatives, for example, during times of economic growth; and more inclined to retain the status quo during periods of economic deficit or restraint.

A population health approach scans the prevailing context and trends to assess current conditions for implementing a population health approach. Times of change and transition associated with health reform, for example, can provide a window of opportunity for novel ways of viewing and acting on health and those factors that influence it. The aim of scanning the prevailing context is to provide a broader view for analysis of the existing conditions and trends in which health status would be addressed, including:

- *Demographic* profile or statistical characteristics such as size, distribution, diversity, gender and age of the population (see contextual information in *Health Indicators* above).
- *Political characteristics* such as political ideology, political will, policy-making processes, political agendas and priorities, interest group lobbying, political participatory traditions, and federal /provincial jurisdictional issues.
- *Socioeconomic conditions* such as economic growth, fiscal policies and social cohesion.
- *Physical characteristics* in terms of natural and built environments.
- *Health sector conditions* such as the current level of consumer satisfaction with the health system and the degree to which the system is undergoing evolution or reform.
- Underlying *cultural characteristics* including values, beliefs, preferences and traditions.

Key

Element 2: *Address the Determinants of Health and Their Interactions*

A population health approach measures and analyzes the full spectrum of factors — and their interactions — known to influence and contribute to health. Commonly referred to as the determinants of health, these factors include: social, economic and physical environments, early childhood development, personal health practices, individual capacity and coping skills, human biology and health services.

Definition and Rationale for Key Element 2

Our understanding of what makes and keeps people healthy continues to evolve. A population health approach considers the entire range of individual and collective factors and conditions and their interconnectedness that have been shown to be correlated with health status. The entire range of health determinants — and not just those that immediately present themselves — as well as the interactions among them — are recognized and taken into account. Later sections (Key Elements 4, 5 & 6) cover specific actions that evolve from the measurement and analysis of the determinants of health covered in this section.

Actions To Mobilize Key Element 2

2.1 Determine indicators for measuring the determinants of health

A population health approach establishes indicators for the determinants of health, and the links between them, to facilitate measurement of change or progress (see Key Element 1 for discussion of indicators). As with indicators for health status, establishing indicators for the determinants of health often requires new research to be conducted to generate the information needed (Key Element 3).

2.2 Measure and analyze the determinants of health, and their interactions, to link health issues to their determinants

When we ask why people develop illnesses or suffer injuries — or why they remain healthy — we no longer expect simple, one-dimensional answers. Research shows that many biological, behavioural, environmental and socioeconomic factors interact in “causing” health or illness. A single risk factor (being physically inactive or having experienced child abuse) may contribute to a wide range of problems, just as a crucial protective factor (good nutrition or having a supportive friend) may help to defend against many health problems. Likewise, the path that leads to any particular health outcome may be very different for different populations.

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There is a growing body of evidence about what makes people healthy and the ways these factors influence health. A population health approach uses evidence from research and other sources to link key health issues to their determinants and to clarify the dynamics by which these factors combine to cause health or illness. This evidence includes data generated from (a) the published literature in academic-based and government databases, (b) population based surveys, (c) data from other jurisdictions, and (d) as noted above, scans for macro level conditions and trends. (see Key Element 5 and Key Element 6 for achieving change to the determinants of health).

The following determinants of health are recognized and addressed:

The Socioeconomic Environment

- *Income, Income Distribution and Social Status:* Research indicates that income and social status is the single most important determinant of health. Studies show that health status improves at each step up the income and social hierarchy. In addition, societies which are reasonably prosperous and have an equitable distribution of wealth have the healthiest populations, regardless of the amount they spend on health care.
- *Social Support Networks:* Better health is associated with support from families, friends and communities. Some studies conclude that the health effect of social relationships may be as important as established risk factors such as smoking, obesity, high blood pressure and a sedentary lifestyle.
- *Education:* Health status improves with level of education and literacy, including self-ratings of positive health or indicators of poor health such as activity limitation or lost work days. Education increases opportunities for income and job security, and provides people with a sense of control over life circumstances — key factors that influence health.
- *Employment and Working Conditions:* People who have more control over their work circumstances and fewer stress-related demands on the job are healthier. Workplace hazards and injuries are significant causes of health problems. Moreover, unemployment is associated with poorer health.
- *Social Environments:* Societal values and rules affect the health and well-being of individuals and populations. Social stability, recognition of diversity, safety, good human relationships and community cohesiveness provide a supportive social environment which mitigates risks to optimal health.

Physical Environment

- Physical factors in the natural environment such as air, water and soil quality are key influences on health. Factors in the human-built environment such as housing, workplace safety, community and road design are also important factors.

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Healthy Child Development

- The effect of prenatal and early childhood experiences on health in later life, well-being, coping skills and competence is very powerful. For example, a low birth weight links with health and social problems throughout the lifespan. In addition, mothers at each step up the income scale have children with higher birth weights, on average, than those on the step below.

Personal Health Practices

- Personal practices such as smoking, use of alcohol and other drugs, healthy eating, physical activity, and other behaviours affect health and well-being. Many of Canada's most common health problems are linked to these practices.

Individual Capacity and Coping Skills

- 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.

Biology and Genetic Endowment

- The basic biology and organic make-up of the human body are fundamental determinants of health. Inherited predispositions influence the ways individuals are affected by particular diseases or health challenges.

Health Services

- Health services, especially those designed to maintain and promote health, prevent disease and injury, and restore health, contribute to population health.

It is acknowledged that culture and gender have a cross-cutting, influential effect on all the other health determinants.

- Gender refers to the many different roles, personality traits, attitudes, behaviours, relative powers and influences which society assigns to the two sexes. Each gender has specific health issues or may be affected in different ways by the same issue.
- Culture and ethnicity come from both personal history and wider situational, social, political, geographic and economic factors.

This list of health determinants may evolve as population health research reveals new insights related to the factors and conditions that influence and contribute to health.

The Population Health Template:

Key

Element 3: *Base Decisions on Evidence*

A population health approach uses “evidence-based decision making.” Evidence on health status, the determinants of health and effectiveness of interventions is used to assess health, identify priorities and develop strategies to improve health.

Definition and Rationale For Key Element 3

Over the past decade, policy makers and practitioners have faced increasing pressure to base decisions on evidence. In a population health approach, evidence-based decision making is used at all stages of the policy/program development cycle. Within the context of this template, evidence-based decision making refers to *a decisional approach in which an information base or body of information successfully survives a broad, critical review process*. This means that each decision – from determining indicators for measuring health status to the mix of interventions to address a health issue – should be justified by reference to the best available evidence *and* reasoning. Evidence, when used with good reasoning and principles of valuation, answers the question, “Why did you decide that”?

An important question regarding evidence-based decision making is: “What sort of data provide appropriate evidence for particular types of decisions”? In the literature on evidence, the use of the words “data” and “facts” may encourage a focus on statistical information (e.g. mortality data) and the results of conventional scientific inquiry (e.g., randomized clinical trials) as the only real “evidence”. Answers to the question “why did you decide that?” make extensive use of both formal and informal quantitative and qualitative evidence, including such qualitative methods as key informant interviews with stakeholders, case studies and consultations with experts in population-based disciplines.

Decisions about the effectiveness of interventions in social and health promotion policy and programs are a challenge because there is often no unequivocal answer to the question “what works”? Currently, evidence-based assessments are largely restricted to individualized medical interventions. However, a study of the use of evidence to inform policy on inequalities in health in Britain^a concludes that the fact that there is more evidence available about interventions aimed at individuals does not mean that interventions aimed at whole communities are not effective. Rather, it reflects the paucity of good quality studies of more “upstream” interventions. The authors conclude that health differentials between social groups, or between poor and rich countries, are not primarily generated by medical causes and require solutions at a different level.

^a Macintyre S, Chalmers I, Horton R, Smith, R. Using evidence to inform health policy: case study. *British Medical Journal* 2001; 322: 222-225 (27 January)

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An integral aspect of a population health approach is ongoing research to strengthen the evidence base on health status, the determinants of health and effectiveness of interventions to improve health. Newly acquired evidence must not only be effectively disseminated to policy and decision makers, but a research transfer strategy must also be implemented to engage decision makers in the use of research results.

Actions To Mobilize Key Element 3

3.1 Use best evidence available at all stages of policy and program development

A population health approach takes an evidence-based approach at all stages of the policy/program development cycle: for the choice of problems or opportunities that will be worked on (Key Elements 1 and 2); for the choice of interventions to develop and apply (Action 3.5); for the decision to implement (Key Element 4); and for the decision to continue (Key Element 8).

Evidence-based decision making in health policy and programming is the use of current best evidence, both qualitative and quantitative, in determining how to improve and maintain the health of populations. It means integrating the policy and program expertise of analysts, decision makers, community organizations and others with the best available evidence from systematic, peer-reviewed research to develop an information base that successfully survives a broad, critical review process. New evidence can invalidate previously accepted ways of assessing and intervening on the health status of populations, and replace them with new ones that are more powerful, more accurate, more efficacious, and safer.

3.2 Explain criteria for including or excluding specific evidence

In a population health approach, systematic and transparent methods governing the assembly, selection and review of relevant data must be used to minimize biases. A population health approach clearly explains its materials, methods and criteria for including or excluding a specific piece of evidence in decision making. In many fields there are no unequivocal answers to the question “what works?”. This lack of evidence does not mean that policies and programs should not be developed on the basis of logic and common sense; however, in these cases it is necessary to make explicit the lack of empirical evidence and the possibility that recommendations might not have the desired effects.

3.3 Draw on a variety of data

A population health approach draws on the full range of *data types* — both qualitative and quantitative — as well as data from other sectors. Data types include environmental data, lifestyle data, vital statistics data, social and economic data, epidemiological data, health systems data, consumer information and demographics. It also relies on diverse *data sources* including census records, vital events registries, and regulatory or quasi regulatory systems.

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As noted earlier, a population health approach often extends beyond established repositories of data to conduct population health surveys which target questions about the broader determinants of health. This information forms the basis of a population-based health information system that enables ongoing surveillance of variations in health status and other indicators.

Additionally, a population health approach strives for data quality while acknowledging that no data are “perfect”. For example, outcome data may be incomplete because in many cases, ten or more years are required to realize benefits accrued from upstream investments in health promotion and disease prevention.

3.4 Generate data through mixed research methods

A population health approach supports research that covers the full spectrum of issues that affect health and well-being. This requires a rich mix of interdisciplinary skills that span the full range of quantitative and qualitative research paradigms including: traditional biomedical sciences, community health sciences, epidemiology, biostatistics, the whole range of social sciences (including sociology, psychology, economics, public administration, and political science), health policy, health economics and other population-based disciplines. Specific methods for evidence development include: meta-analysis, randomized trial studies, case studies, risk/benefit analysis, surveys, population polls, forecast modeling, and economic methods such as cost-benefit and cost effectiveness analyses. Expanding and strengthening the evidence base also results from presentations, briefings and written submissions of topic (or “input”) papers from academics and other experts in population-based disciplines.

While a population health approach values the development of new knowledge, it does not focus on data generation alone. It recognizes also that data needs to be critically reviewed on an ongoing basis. Linking data collection to regular data review supports the development of new models and tools such as “best practices” guidelines.

3.5 Identify and assess effective interventions

To improve decision making, a population health approach analyzes the available evidence on which interventions or combinations of interventions are the most effective in modifying specific types of health outcomes, decreasing health inequities, improving the health of the population as a whole or achieving change to the determinants of health. This is done to answer the question: is it possible to address the issue and have an impact? Methods to assess and review effectiveness include: a synthesis of evaluations of related population health and health promotion interventions in the last 10 years in Canada (including quantitatively based studies) and a comparison with other countries where lessons are applicable to Canada. In situations of insufficient evidence, policy makers may need to resort to other approaches to justify the use of resources for population health, including expert opinion, trial programs with mid term evaluations, or risk based assessments.

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There are differences in opinion on what represents effectiveness of interventions. Politicians, economists and budget managers, the population who is to benefit from action, academic researchers, and practitioners often differ in their emphasis on the process, cost and practicality by which outcomes are achieved. These different perspectives are reflected in the current wide range of methods (qualitative, quantitative, economic, participative) and measures (behavioural, changes to determinants) used in establishing evidence of effectiveness. Evidence of effectiveness is also inextricably linked to the entry point (issue, population or setting) and type of intervention.

As observed by the International Union for Health Promotion and Education, there can be no single 'right' method or measure which can be used to evaluate the effectiveness of interventions, and no 'absolute' form of evidence. Tensions which arise from the differences in interpretation of the meaning of "effectiveness" will remain. Nevertheless, economists, policy makers and budget managers need to be able to judge the success (or likely success) of interventions in order to allocate resources and be accountable for those decisions. While there is currently a lack of traditional cost-benefit analysis work available on health promotion and population health interventions, there are a growing number of synthesis reports available (see for example, *The Evidence of Health Promotion Effectiveness* by the International Union for Health Promotion and Education) to demonstrate that these investments in health do pay dividends and have clear relevance in health, social, economic and political terms. A major challenge is to develop ever more reliable and valid measures of health intervention success and to improve the quality and range of evidence available to guide decision making.

3.6 Disseminate research findings and facilitate policy uptake

A population health approach develops and implements systems for tracking and reporting information and research findings related to health status, health determinants and effectiveness of interventions to policy makers, health practitioners and the public. Translating research findings into useable materials at the policy and program levels is an integral part of a population health approach. To ensure that research evidence on the determinants of health informs policy and decision making, effective strategies for knowledge transfer and policy uptake are needed. Such strategies need to identify the population health research needs of decision makers and to engage them in using the results of research.

To identify a range of strategies for transfer of research knowledge, the Canadian Population Health Initiative (CPHI) examined knowledge transfer strategies of seventeen organizations involved in health or social research and/or policy (*An Environmental Scan of Research Transfer Strategies*, www.cihi.ca/Roadmap/CPHI/Documents.shtml). Based on the study findings, it was concluded that dissemination of population health research findings must be targeted at a wide variety of individuals and organizations, including:

- *Government departments emphasizing health and social services: potential collaborators.*

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- *Policy organizations conducting similar research:* have established communication networks with decision makers.
- *International organizations:* add credibility and prestige.
- *Professional organizations* (particularly in the health field): provide access to new audiences.
- *General public:* advocates to decision makers.
- *Community organizations:* provide community support and assist in dissemination.
- *Business community:* is a key influence on the workplace.
- *Regional health authorities and health care providers:* allocate health care services and identify relevant targets for information and service delivery.

Timing is an essential element of population health research transfer. The CPHI environmental scan found that decision makers should be engaged early on and this relationship maintained through all phases of the research, a goal that can be achieved through the ongoing use of collaborative working groups.

The scan also identified the need for a range of outputs appropriate to various target audiences. Additionally, a number of specific methods were highlighted for encouraging the uptake of research findings by policy and decision makers, including:

- effectively using web sites;
- building a research transfer strategy into each project;
- establishing formal links and partnerships with policy and decision makers;
- employing specialists in research transfer; and
- sponsoring empirical investigations on the transfer of research findings.

Key

Element 4: *Increase Upstream Investments*

The potential for improved population health is maximized by directing increased efforts and investments “upstream” to maintain health and to address root causes of health and illness. This will help to create a more balanced and sustainable health system.

Definition and Rationale For Key Element 4

Under a population health approach, evidence about “what makes and keeps people healthy” and effectiveness of interventions guides the identification of priority actions. Evidence establishes the parameters for health investment decisions. A population health approach directs investments to those areas that have the greatest potential to positively influence health. It also seeks to maximize the potential for health-related cost savings. Population health approaches are grounded in the notion that the earlier in the causal stream action is taken (the more “upstream” the action is), the greater the potential for population health gains. However, depending on the objective, some “upstream” interventions may not be the most appropriate choice given context, timing, resources, mandate or evidence. The choice should be based on the best evidence, not on an article of faith that “further upstream is always better.”

In many cases upstream action calls for the inclusion of action on the social, economic and environmental conditions that correlate with poor or excellent health. For this reason, “upstream” interventions such as health promotion, protection and disease/injury prevention are recognized as central responsibilities within a population health paradigm. The key is to identify what strategies will have the greatest upstream impacts. A second, equally important stage is to decide what types of interventions to employ, who should employ them, to whom they will be directed, and when they will be implemented in order to best contribute to the desired health outcome (see Key Element 5).

Actions To Mobilize Key Element 4

4.1 Apply criteria to select priorities for investment

Health decision makers are unlikely to support upstream investments unless potential benefits are clearly identified. A population health approach uses the best evidence available to demonstrate return on investment of interventions. Methods to engage health decision makers to support upstream initiatives require both a quantification of cost effectiveness and an identification of anticipated positive health outcomes.

After the available interventions and their relative effectiveness have been identified (see Key Element 3), priorities for investment are selected based on the results of a strategic assessment process. The assessment process allows us to compare and choose investments

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based on their ability to improve health outcomes. Criteria to guide investment decisions include, but are not limited to, the following:

- **Magnitude of the issue** (severity and scope of the impact of the issue/threat on the health of Canadians? current or anticipated health and economic burden?);
- **Status of current response** (what is being done? is it effective? what remains to be done?);
- **Ability to effect change** (modifiable health outcomes? potential impact? potential for addressing several health issues at once through a set of integrated actions? possibility that investment might do harm? proposed interventions supported by systematic, empirical evidence and/or cogent argument? technical, fiscal and political feasibility? readiness by key players to act? capacity? readiness of Canadians for change? likelihood of bringing benefits other than health benefits?);
- **Appropriateness for involvement** (fits mandate/roles of the organization? levers available? extent of value added? ease of implementation? is there public support?); and
- **Cost effectiveness** (potential health improvement relative to investments made?).

Under a population health approach, criteria to guide investment decisions are generated and agreed to among investor groups that seek to advance health.

4.2 Balance short and long term investments

A population health approach recognizes the tension between short and long term aims. Health problems have to be treated immediately, but at the same time upstream investments are needed to keep people healthy. These upstream investments require sustained support, as their impacts will be realized in the medium and long term. Examples of *short term initiatives* include responding to citizen concerns about the quality and accessibility of health care, food and drug safety, and emergency response procedures. *Medium term initiatives* include programs that favour equity, such as redistribution of resources and programs that invest in children, such as responding to windows of developmental opportunity. An example of a *long term initiative* is investment in alternative energy sources and other technologies that reduce stress on the physical environment. Population health approaches strive to strike an appropriate balance between investments at each level.

4.3 Influence investments in other sectors

A population health approach acknowledges that taking action on the social, economic and environmental health determinants requires influencing how other sectors apportion their resources. Investing resources to address these broader determinants of health can challenge the established interests of political leaders, some medical professionals and other groups that benefit from the status quo⁽¹³⁾. It is important, therefore, to undertake information and education initiatives to explain and justify investment allocation patterns that underpin a population health agenda.

Key

Element 5: *Apply Multiple Strategies*

A population health approach integrates activities across the wide range of interventions that make up the health continuum: from health care to prevention, protection, health promotion and action on the broader determinants of health.

Definition and Rationale for Key Element 5

Current understandings that the health of populations is correlated with factors that fall outside as well as inside the health system, set the context for new approaches to health improvement. A population health approach calls for innovative and inter-connected interventions and strategies that consider the entire spectrum of health determinants. Based on the analysis of evidence, a mix of strategies is developed that potentially yields the greatest positive impact on population health outcomes. These interventions and strategies are applied within multiple settings such as the home, school, workplace and community.

Actions To Mobilize Key Element 5

5.1 Identify scope of action for interventions

Developing and pursuing a clear strategic approach further defines “doing things a population health way.” Research shows that while a variety of strategic approaches can be used, the *incremental-comprehensive dimension* is most influential in mobilizing a population health agenda. The incremental-comprehensive continuum revolves around the following question: “How much should we take on?” The “incremental approach” implies a step-by-step process where, for example, only one or a few health determinants are acted upon initially. This approach starts out slowly with the view to develop strategies for other determinants over time. A “comprehensive approach” implies exhaustive action of all the factors that contribute to health. This approach acts on a broader complement of health determinants. A population health approach addresses the incremental-comprehensive dimension directly, and thereby, specifies what will be accomplished in both the immediate and longer terms.

5.2 Take action on the determinants of health and their interactions

Because the determinants of health interact with and influence one another, interventions which focus solely on one determinant of health are likely to be less effective unless complementary action is taken to influence a linked factor. A population health approach recognizes the interplay between determinants, and addresses both those that have historically been viewed as under an individual’s control (such as personal health practices) as well as those that are farther removed from the individual or his immediate environment (such as income or working conditions).

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5.3 Implement strategies to reduce inequities in health status between population groups

An underlying principle of a population health approach is that all people have an equal opportunity to develop and maintain their health. Population groups have unique requirements for health. A population health approach assesses need and develops strategies that accommodate the distinctive characteristics of population groups such as geography, disability, gender or culture. In addition, it strives to achieve greater equity in health outcomes between and within populations while recognizing variations in health resources. Inequities in health outcomes among population groups are often associated with inequities in social, economic and environmental conditions. A population health approach, therefore, implements actions and policies that generate social and economic environments which are conducive to higher standards of health for the population as a whole. Optimizing health outcomes for all citizens is a principal aim.

5.4 Apply a comprehensive mix of interventions and strategies

A population health approach should facilitate analysis and decision making about the relative contribution to health status of investments along the entire spectrum of health action: from health care to prevention, protection, health promotion and action on the broader determinants of health (social, economic, environmental)⁴. These categories of health intervention are interconnected, overlapping in some areas, and complementary. The analysis aims to identify the most appropriate mix of promotion, prevention, protection, care, and policy initiatives within the health sector in conjunction with interventions in other sectors (e.g. education, social services, industry, transportation, finance and justice) that may have an impact on health (see Key Element 6).

These interventions incorporate a range of strategies to improve health status and to reduce health inequities. Examples include policy development and coordination, regulatory actions, research, community action, capacity building, partnerships, education and public awareness, and organizational and administrative reviews. Not just strategies, but their combinations, must be analyzed to assess which ones will have the greatest impact on the health of the population. No one action could be effective on its own; it is the combination that produces results. They therefore need to be drawn together into a comprehensive initiative.

Interventions can operate on different levels. Currently our resources and attention are heavily focused on one-to-one individualized interventions within the health care system, aimed largely at the restoration of health. The challenge is to move beyond the individual to the family, community, region and Canadian society and to increasingly invest health resources upstream to address the root causes of health problems, not only their symptoms. In a population health approach, strategies may be directed at any level, depending on what is needed to improve the health of the population. Some strategies are community-wide and affect all members of the population while others are targeted at a sub-group of the population. The key is to make these levels of intervention mutually supportive and complementary.

5.5 Apply interventions that address health issues in an integrated way

A population health approach uses research to link key health issues to their determinants and to clarify the dynamics by which these factors combine to cause health or illness (see Key Element 2). Because many health issues are related through common risk/protective factors, the same life stage or setting, or their amenability to the same types of intervention, actions to address them can be integrated. This sets the stage for interventions that can address a number of health problems in a synergistic way and provide multiple benefits. We know, for example, that diabetes, cardiovascular disease and cancer share many of the same risk and protective factors. A concerted effort to address these common factors would protect against all three diseases, probably more effectively than three uncoordinated, disease-specific prevention programs.

5.6 Apply methods to improve health over the lifespan

While a population health approach focuses on the collective versus the individual, it accounts for individual experiences over the lifespan and recognizes the association between individual health experiences and health status at the aggregate or population level. A population health approach acknowledges that life events and transitions are mediated by social status, economic considerations, gender, community supports and other health determinants. It recognizes also that the various health determinants have a differential impact across the lifecycle. Life experiences and episodes such as transition from childhood to adolescence, employment changes, marriage, parenthood, retirement or bereavement can influence health and well-being⁽⁵⁵⁾. It is important, therefore, to encourage interventions that meet the health challenges of these transition periods across the life span.

5.7 Act in multiple settings

A population health approach considers settings, and the contribution each can make, when assessing health and interventions. Programs and policies are developed and implemented where people live, learn, work and play. The aim is to create health-enhancing physical and social environments as a part of everyday life. Examples include: (a) promoting legislation for safe, supportive workplaces, (b) improving school design and operations for better student/teacher health, (c) supporting healthy cities initiatives through sound urban planning and management, (d) increasing public awareness of safe built environments, and (e) instituting regulations to protect the natural environment.

5.8 Establish a coordinating mechanism to guide interventions

Under a population health approach, a coordinating mechanism is established to guide the development and implementation of multifaceted, integrated interventions directed at the determinants of health and their interrelationship. Research demonstrates that coordinating mechanisms must be sufficiently supported to be effective⁽⁶⁾. They require, for example, (a) *capacity*, that is, they must be comprised of individuals with relevant knowledge and expertise who are assisted by competent support staff; (b) *political support*, that is,

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endorsement from political and community leaders; and (c) *autonomy*, that is, the authority to make decisions about courses of action to meet health aims. In addition, coordinating mechanisms need to be based on sound management principles. In order to effectively guide interventions for healthy populations, coordinating mechanisms must assume core responsibilities such as funding, technical assistance, organization, management, education, communications, leadership and promotion (see Key Element 6).

Key

Element 6: *Collaborate Across Sectors and Levels*

A population health approach calls for shared responsibility and accountability for health outcomes with multiple sectors and levels whose activities directly or indirectly impact health or the factors known to influence it.

Definition and Rationale For Key Element 6

“Intersectoral collaboration” is the joint action between health and other government sectors, as well as representatives from private, voluntary and non-profit groups, to improve the health of populations. It requires coordination and action within the health sector while engaging interests outside health.

Intersectoral collaboration is based on the understanding that health is determined by multiple, interrelated factors, and that creating and maintaining health requires action from those sectors whose work aligns with the various health determinants. Within a population health approach, the health sector works with other sectors not only to implement actions to improve population health, but also to realize the goals of the other sectors. Intersectoral action makes possible the joining of forces, knowledge and means to understand and solve complex issues whose solutions lie outside the reach of a single sector.

Intersectoral action takes different forms such as cooperative initiatives, alliances, coalitions or partnerships. It has two dimensions. The *horizontal dimension* links the health sector with different sectors at a given level. This includes links between the health sector and other government sectors such as economic, justice, environment and education; as well as with non-governmental representatives from the voluntary, non-profit and private sectors. Horizontal partnerships identify common goals and ensure coordinated planning, development and implementation of related policies, programs and services of sectoral partners. Horizontal collaboration is strengthened when vertical links are also achieved.

The *vertical dimension* links different *levels* within a given sector (e.g. where local, regional, provincial/territorial and national counterparts engage in collective action). Vertical relationships support and facilitate horizontal relationships and collaboration. Collaboration along the vertical dimension helps to ensure better coordination and alignment of purpose between, for example, (a) different levels of an organization such as front line workers and centralized policy makers, (b)

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different levels of government such as municipal and provincial counterparts, or (c) different geographic regions of a country such as Atlantic and Central Canada. Both horizontal and vertical relationships and collaboration are important to achieve health gains under a population health approach.

Actions To Mobilize Key Element 6

In the discussion paper, *Intersectoral Action ... Towards Population Health*, the Federal, Provincial and Territorial Advisory Committee on Population Health (1999) identifies several conditions for successful intersectoral collaboration which build on the international research and practice in this area.

6.1 Engage partners early on to establish shared values and alignment of purpose

Successful intersectoral initiatives to improve health are facilitated by the early engagement of potential partners from sectors outside health as well as different disciplines and levels within the health sector. Effective collaboration is more likely when participants have a clearly articulated purpose, based on shared values and interests. It is important to recognize that participating partners often place value on different things. For example, while people in the health sector value health, representatives from other sectors may place greater value on social issues, economic achievement or sustainable human development. The aim of collaborative work is to find common ground and to generate collective action to improve health.

Establishing a shared purpose allows partners to see how participation will help them to achieve their own mandate, as well as contribute to the larger good. Furthermore, consensus on shared purpose early on in the program planning cycle fosters effective working relationships which are vital to the successful implementation of health programs, policies and services at a later time (Federal, Provincial, Territorial Advisory Committee on Population Health, 1999).

Intersectoral action should be viewed as a “win-win” situation, whereby each party gains something, versus a competitive exercise based on sectoral “imperialism,” where one sector is seen as benefitting from the work of others in order to fulfil its own purpose or mandate⁽⁶⁾. Collaborative action for improved health is facilitated by (a) addressing those issues that have meaning or salience to participating parties, (b) engaging people with varied and complementary skills, (c) encouraging comparability in attitudes and social outlook among members, and (d) enhancing positive personal ties among members. These factors also help to build stable and effective teams that work well together.

6.2 Establish concrete objectives and focus on visible results

Intersectoral work needs to translate a shared purpose into specific deliverables. Research indicates that successful intersectoral initiatives are characterized by a focus on concrete objectives that clearly outline a blueprint for action. Several benefits accrue from the clear articulation of population health goals. Health goals and objectives (a) make explicit the achievements expected from health investment, (b) foster political and community support, (c) help to reorient health systems from a focus on medical care to preventive services, (d) support policy direction, (e) document health gains for the short and longer terms, and (f) encourage the assessment of the impact of programs and policies on health (health impact assessment)^(46,38,39,6). Goals and objectives enable partners engaged in intersectoral work to clearly see what needs to be accomplished, how, by whom, and by when.

6.3 Identify and support a champion

Another important condition for successful intersectoral collaboration is to identify and support a champion. Although “champion” typically refers to an individual, it may also take the form of a group or collection of individuals. Champions are the public face of population health initiatives. They generate interest and excitement around population health issues and rally support to move a population health agenda forward. Research has demonstrated that at least three dimensions characterize an effective champion⁽⁵⁾:

- The champion is trusted, respected, non partisan (that is, not attached to any particular political agenda), and works effectively with political leaders.
- The champion is strongly committed to the determinants of health philosophy.
- The champion welcomes, encourages and successfully brokers multiple and varying perspectives to shape a population health agenda.

6.4 Invest in the alliance building process

Collaborative work across levels and sectors within a population health paradigm requires resources in the form of personnel and money. Partners must have the ability to commit both financial and personnel resources if the collaborative work is to be effective. Overall, intersectoral action is improved when the sufficient amount and mix of required resources are invested in the alliance building process.

Intersectoral collaboration is facilitated by personnel who are well-trained, specifically assigned to population health work, and drawn from a multitude of disciplines and professions⁽³¹⁾. Dedicated time to undertake this work is also important. Collaborative work requires:

- a common human resource plan that is documented and agreed to by all partner organizations;
- the identification of skills requirements and opportunities for training and development;
- the sharing of examples of innovative working methodologies.

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Intersectoral work is challenged by established “stove-piped” budgeting practices that provide a disincentive to pool resources for common causes. Intersectoral collaboration requires (1) consensus on cost sharing by participating groups and (2) identification and resolution of barriers to pooling budgets.

6.5 Generate political support and build on positive factors in the policy environment

Since governments are major partners in intersectoral action, and because politics and public policy affect non-government partners, a population health approach is dependent upon political support and a public policy environment that facilitates collective action.

The success of intersectoral initiatives is greatly improved by an explicit link to the political level. This can be accomplished through the direct involvement of politicians in population health initiatives (e.g. membership on a committee), or through a clear liaison to the political level overseen by senior administrative officials. Visible political support and commitment advances intersectoral action by motivating and sustaining partner participation and ensuring access to necessary supports.

Intersectoral action on health also needs to acknowledge the existing public policy environment, and intersectoral partners need to adapt accordingly. Governments may, for example, pay more attention to the health impacts of policy decisions in a positive fiscal environment. Furthermore, Canadians may be more likely to support programs which benefit the most vulnerable members of society during times of economic strength. A clear reading and assessment of the public policy environment is an essential consideration of partners joined in intersectoral work.

6.6 Share leadership, accountability and rewards among partners

The Federal, Provincial and Territorial Advisory Committee on Population Health (1999) acknowledges the challenges associated with leadership of intersectoral initiatives. Leadership seems to be more about providing guidance and influencing action than about garnering control.

The health sector can assume one of two roles in intersectoral action for health: *leader* or *facilitator*⁽⁵⁾. Typically, the health sector assumes a leadership position in those population health initiatives that relate most directly to its mandate and fall within its realm of expertise. These include, but are not limited to: health promotion, personal health practices and coping skills, risk management, health surveillance, and health services. The health sector shoulders the role of facilitator when population health initiatives extend beyond established health interests or capacities. Initiatives addressing education, transportation or employment issues, for example, would be taken on by agencies and ministries representing these sectors. Under this scenario, the health sector facilitates partnerships and coordinates multi-sectoral initiatives, and relies on representatives of sectors outside health to address issues extending beyond its (the health sector’s) own reach.

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In addition, intersectoral collaboration within a population health context requires shared accountability for health outcomes. Sectors and levels work together to meet goals and objectives (that is, desired outcomes) they have reached consensus on. This extends logically to shared rewards. Health actions planned and implemented by multiple partners generate rewards and benefits for those sectors and levels that contribute to the effort.

Key

Element 7: *Employ Mechanisms for Public Involvement*

A population health approach promotes citizen participation in health improvement. Citizens are provided opportunities to contribute meaningfully to the development of health priorities and strategies and the review of health-related outcomes.

Definition and Rationale For Key Element 7

A population health approach engages citizens through the public involvement process which recognizes the role, contribution and shared accountability of stakeholders, citizens and governments in the development of public policies for health improvement. *Public* is defined as individuals, consumers, citizens, special interest groups, industry, and scientific and professional associations. *Involvement* refers to the level of participation along a continuum. All points along the continuum represent valid contribution. The degree of involvement depends on the objectives of the exercise and desired level of public comment or influence.

Three activities span the public involvement continuum: (a) communication, (b) consultation, and (c) citizen engagement.

Communication: Communication strategies are employed when the aim is to inform and educate the public, convey issues or results, or prepare citizens for future initiatives that require greater public involvement. An important first step of every public involvement process is providing clear, accurate information so the public are fully informed about the issues. Citizens are also provided opportunities to represent their views, learn from others, and work collectively to establish common ground for improved health.

Consultation: Generally, consultation is chosen when there is a need to gather stakeholder views and/or provide opportunities for the public to discuss major issues or activities which affect them or represent a significant interest. At this stage, it is still possible for views to be considered in joint decision making, partnership in action on solutions, or the shaping of policy directions.

Citizen engagement: Citizens are engaged when they participate as important partners in program and policy development that involves societal-level values and trade-offs. Citizen engagement involves those groups for which a policy or program is intended, especially groups that have been previously disenfranchised. Citizens accept the challenge of generating solutions and strategies for

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health improvement and work with government toward solution implementation. Typically, citizen engagement involves community-based and publicly driven initiatives where government assumes the role of facilitator or enabler. Decisions to involve citizens at the higher level of the continuum are guided by assessments of whether issues concern the formulation and implementation of policies and programs that involve potential conflicts in values or identity, difficult choices or tradeoffs, or have a major impact on citizen lives⁽⁴⁰⁾.

A principal benefit of public involvement is that public confidence in decision making and information sharing is increased, as those citizens who are most affected by a health issue contribute to possible solutions early in the planning process. Meaningful public involvement yields other value-added benefits which include:

- Building relationships based on trust, transparency, accountability, openness and honesty.
- Integrating a wider range of public needs, interests and concerns into decision making.
- Resolving problems more effectively, through collaborative means.
- Ensuring that decisions and solutions incorporate perspectives, knowledge and technical expertise that would not otherwise be available.
- Placing issues and projects within a broader technical, social, cultural or ethical context.
- Increasing the level of public acceptance and ownership of decisions and policies.

A population health approach places people at the centre and views citizens as active participants in creating and maintaining health across the life span⁽⁵⁵⁾.

Actions To Mobilize Key Element 7

7.1 Capture the public's interest

A population health approach not only informs the public of health as a matter of legitimate concern, but aims to generate interest and excitement about health within the public consciousness. The “green environmental movement” of the past few decades is a good example⁽⁵⁵⁾. Population health approaches endeavour to place health and its associated determinants as relevant and sustainable concepts in the public's mind and seek broad-based public acceptance and endorsement of health issues and agendas.

7.2 Contribute to health literacy

By engaging citizens, population health approaches advance the health literacy of individuals and communities. Health literacy refers to the experiences, exposures, values, attitudes, beliefs, assumptions and knowledge of health-related issues within populations.⁽⁵⁾ Public

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education campaigns are a common way to foster health literacy. Such campaigns draw upon social marketing concepts and make effective use of various communications mediums including print, television, radio and the Internet. They also include alternate formats such as braille, talking books and closed captioning for persons with physical disabilities. Health literacy means that citizens are more informed on health issues. They become better health consumers who make informed choices about their own health and that of their communities. Besides advancing health literacy, population health approaches assess the existing level of health literacy within populations, as part of the program/policy development process, so that messages are understood and well-received by citizen groups.

7.3 Apply public involvement strategies that link to overarching purpose

A population health approach clearly defines the reason for public involvement and then applies strategies to meet its purpose. It identifies and applies strategies and matching techniques along the public involvement continuum to answer the question: “What is my need, and what is the best strategy to address it?” Public involvement strategies and techniques can be grouped into five levels:

Level 1: *Inform and educate* through communication mechanisms, ensuring presentation and language are suitable for the target group or audience. This is the preferred strategy when the aim is to notify the public about a decision, share results of a process/initiative, generate support for a proposal or program/policy direction, or set the basis for more in-depth public involvement at a later time. Examples of Level 1 techniques include advertising and social marketing, information kits and toll-free telephone numbers.

Level 2: *Gather information and views.* Level 2 techniques are employed when the purpose of public involvement is to listen and gather information, solicit input on evolving policy decisions, or seek comment on issues in the absence of any firm commitment to act on those views (participants are advised from the outset of this intention in order to manage expectations). Examples of Level 2 public involvement techniques include bilateral meetings with stakeholders, community or public meetings and citizen questionnaires.

Level 3: *Discuss or involve* through consultation.⁵ Level 3 techniques are the strategy of choice when two-way information exchange is needed and individuals and groups are affected by and expected to influence the final outcome. Advisory committees, boards or councils, online discussion group and list servers, and workshops are examples of Level 3 techniques.

Level 4: *Engage* citizens. Citizens are engaged when their input is sought on complex and value-laden issues and when they contribute to shaping policies and decisions that affect them. Examples of Level 4 techniques include Delphi review processes, retreats and round tables.

Level 5: *Partner* with citizens. Level 5 techniques for public involvement are most useful when the aim is to empower citizens and groups to manage the planning/policy process. Partnering is effective also when there is an agreement between citizen groups and government to jointly

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implement solutions. Citizens' juries, citizens' panels and study groups represent examples of Level 5 techniques.

The selection of public involvement strategies is dependent on a number of factors. They include: (a) the nature and complexity of the issue, (b) the goal and phase of the planning/policy process, (c) the expected level of participant influence, (d) participant profiles (i.e., the mix of citizens versus interest group representatives), (e) previous experience of facilitators with public involvement techniques, (f) time lines, financial costs, human resources and expertise, (g) degree of intersectoral collaboration required, and (h) level of support for public involvement processes from stakeholders and government partners.

Key

Element 8: *Demonstrate Accountability for Health Outcomes*

Population health focuses on health outcomes and on determining the degree of change that can actually be attributed to interventions.

Definition and Rationale For Key Element 8

Accountability in the past focused much more on inputs (resources utilized), processes (activities) and products. Under a population health approach, a much greater emphasis is placed on accountability for health outcomes and determining the degree of change that can actually be attributed to interventions. This has an impact on planning and goal-setting processes as well as on the choice of interventions or strategies employed. In making decisions on the best investment of resources, strategies that have the potential to produce the *greatest* health gains within acceptable resource limits will be given priority.

Outcome evaluation is essential in a population health approach. It examines long-term changes in both health status and the determinants of health. These include changes in knowledge, awareness and behaviour, shifts in social, economic and environmental conditions, as well as changes to public policy and health infrastructure. Outcome evaluation also seeks to measure reduction in health status inequities between population sub-groups. It is important to identify and measure short, medium and long-term outcomes to ensure on-going support and relevance of the activity for players whose agendas are shorter term.

Many who are responsible for health policies and programs may resent or fear accountability, given the many factors outside of their control which can impact on health outcomes. They should be reassured that the approach recommended here includes considering the full range of reasons for meeting or not meeting a target. If the suicide rate goes up, it may not be that the program has failed; if it goes down, it may not mean that the program has succeeded. The important question is: what else was going on at the same time which also had an impact?

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Longer-term outcome evaluation is essential to a comprehensive evaluation program, which also includes process evaluation (to determine whether a policy or program is meeting its goal and reaching its target population) and impact evaluation (to measure immediate results of a program or policy).

Regular and timely reporting of evaluation results and outcomes with Canadians, partners, policy and decision makers is an integral part of a population health approach.

Actions To Mobilize Key Element 8

8.1 Construct a results-based accountability framework

A population health approach encourages the development of a results-based accountability framework, which establishes clear accountabilities and performance measures at the outset of health programs and activities. Results-based accountability frameworks are agreed upon by the main partners and include the following:

- a clear statement of the roles and responsibilities of the main partners involved in delivering the policy, program or initiative (e.g. a sound governance structure);
- a clear and logical design that ties resources to expected results (e.g. a results-based logic model that shows a logical sequence of resources, objectives, activities, outputs and key results for the policy, program or initiative);
- an outline of the performance measurement strategy, including costs and performance information (key indicators) that will be tracked (to allow managers to track progress, measure results, support subsequent evaluation work, learn and, through this, make adjustments to improve on an ongoing basis);
- the schedule of major evaluation work expected to be done; and
- an outline of the reporting provisions to ensure transparency and accountability of health actions to the public, stakeholders and program funders who have an interest (and duty) to be informed on program progress (or lack thereof).

Results-based management and accountability frameworks should convincingly demonstrate the intention and capacity to measure performance against key results commitments on an ongoing basis (ongoing performance measurement) and periodically through evaluation. A sound performance measurement strategy should cover:

- Main activities of the program (what will be done?)
- Clients or target populations (who will benefit?)
- Expected results (what will be achieved?)
- Performance indicators (how will we objectively know?)

Key Elements and Actions that Define a Population Health Approach

- Data sources (where will we get the information?)
- Methodological considerations (how will we measure and analyze, and at what costs?)

8.2 Ascertain baseline measures and set targets for health improvement

Baseline data collection, target setting and health goals are important aspects of a population health approach. Baseline measures represent current statistical levels on health-related indicators. Targets are quantified statements of the level/magnitude, direction and timing of desired change expected on an indicator. Indicators are statistical measures which are usually stated in rate form^(5,13). Generally, the term “health goals”⁶ is used in a generic sense and refers to a planning framework that typically includes goals, objectives, indicators, targets and strategies.

Without specific targets to guide health actions, expectations for health gains remain vague. Targets specify the amount and timing of desired change expected on an indicator; they set forth the parameters of success. The articulation of health goals and targets includes the clear delineation of strategies to be undertaken and parties responsible for achieving targets.

The international literature reveals five possible approaches to target setting. They are: (a) *historical comparisons* where targets are based on the extrapolation of levels on an indicator from past and present levels to future estimates; (b) *normative comparisons* where targets are set based on the level of performance on an indicator achieved by similar programs, interventions, or policies in comparable jurisdictions or settings (normative standards are often referred to as benchmarks); (c) *theoretical standards* where targets are based on what research and theoretical evidence would suggest is reasonably achievable; (d) *ideal or absolute standards* where targets aim for complete eradication of the problem or universal achievement of the health goal; and (e) *compromise standards* where targets are negotiated through some adjudication of the other four methods^(5,33). Choice of the target-setting method depends on several issues such as the current state of knowledge (theoretical basis of the issues at hand) and the availability and accessibility of comparable data sets.

Establishing baseline measures and target setting facilitates the tracking of indicators over time. This helps to assess the effectiveness of various policies, programs and interventions which, in turn, increases accountability for (government’s) investment of resources. In addition, target setting and monitoring holds significant persuasion power for actors who need to see evidence of change/improvement in order to justify their support for a sustained population health agenda.

Research demonstrates that target setting relating to the health determinants, which often involves sectors other than health, is difficult⁷⁽⁵⁾. Experience in several jurisdictions reveals, however, that efforts undertaken to overcome challenges associated with target setting are worth the potential benefits accrued. Under a population health approach, health goals are instrumental in advancing policy making, program planning and evaluation, resource

reallocation, population-based planning methodologies and health status and health system monitoring^(13,39,43,5).

8.3 Institutionalize effective evaluation systems

Evaluation methods span the spectrum of process, impact and outcome evaluation⁽¹⁸⁾. A population health approach acknowledges the planning-evaluation cycle, reinforces the role of evaluation in health status monitoring and develops systems to institutionalize evaluation methodologies. Effective evaluation strategies promote population health approaches by (a) providing a rationale for undertaking specific health actions or policies, (b) furnishing an internal correction mechanism to signal necessary changes in policy direction, and (c) rallying political support for specific interventions and associated resource requirements. In this way, evaluation systems may support the sustainability of population health initiatives by making clear the positive impact of various activities and programs on population health status.⁸

Specific actions to facilitate the development and application of evaluation mechanisms for population health can be drawn from work recently completed by the WHO European Working Group on Health Promotion Evaluation (1999). In “Health Promotion Evaluation: Recommendations to Policymakers,” the working group suggests the following actions:

- Encourage participatory approaches to evaluation that support meaningful involvement by those with an interest in or who are potentially affected by the initiative.
- Agree upon a set-aside percentage of total financial resources to support evaluation costs.
- Support the use of multiple evaluation methods that allow for the assessment of both process and outcome information.
- Fund research on appropriate approaches and tools for population health evaluation.
- Establish a training and education infrastructure to develop expertise in the evaluation of population health initiatives.
- Create and support forums and networking opportunities for information sharing on the challenges and methods of population health evaluation.

8.4 Promote the use of health impact assessment tools

A population health approach develops and utilizes accountability tools that have been tested and applied, such as *health impact assessment*. Similar to environmental impact assessment, health impact assessment tools support increased accountability for actions and investments in health. They do this by setting forth criteria for determining the *health impact* of current or proposed policies and programs - both health and non-health. This has the benefit of a consistent process across sectors to looking at health impacts, and the engagement of sectors who would not normally consider how their decisions effect health. However, unless this process is enforced in some high profile way (e.g. by the Auditor General), it is not likely to be effective.

8.5 Publicly report results

Public reporting of the impact of population health initiatives is a cornerstone of a population health approach. As mentioned above, engaging the public and partners from multiple sectors to work toward improved population health status (and movement on indicators representing the determinants of health) requires effective, attention-getting communication strategies⁽²⁵⁾. Examples include: (a) population health “report cards” at national, provincial and regional/municipal levels, (b) cataloguing and sharing “best practices,” and (c) documentation of case studies that illustrate precisely how population health initiatives are undertaken and sustained. Public reporting may also target special population groups, especially those confronting particular risk factors or conditions. Reports, for example, may focus on women, children, immigrant and refugee populations, aboriginal people or people with disabilities.

Additionally, effective strategies for knowledge transfer and policy uptake of research findings and evaluation results must be implemented to influence appropriate decision makers and increase the evidence base (see Action 3.6).

V. Closing Remarks

An underlying aim of the *Population Health Template* is to encourage discussion and action on population health. The template articulates eight key elements and many associated actions to guide the development and implementation of policies and programs that align with population health principles and concepts.

Applying the *Population Health Template* poses several implications. For example, different user groups (such as policy makers, program planners, and practitioners) may find some aspects of the template more applicable to their work than others. In addition, initiatives that address specific health issues may draw more heavily on some of the key elements than others. Additional factors and conditions that influence the application of the template include (a) the overall intent or aim of the initiative, (b) the target audience, (c) the outcomes being sought, and (d) the resources available. Because application of the *Population Health Template* will vary, users would be well served to become familiar with the full complement of elements that comprise it; and then make judgments about how to best apply the template, relative to their own aims, ambitions and needs.

Endnotes

- 1 Named after the then-federal Minister of Health and Welfare, Marc Lalonde, the Lalonde report signified the first time that a major government publicly acknowledged that medicine and the health care system play only a partial role in determining health status. It explored how factors other than health care influenced and contributed to health, and identified human biology, lifestyle, the environment and the availability of health services as key influencing factors.
- 2 Released by the Federal Government, Minister of Health and Welfare, Jake Epp, as a follow-up to the Lalonde Report, this document set out a matrix of health promotion challenges, mechanisms and strategies and give more prominence to the broader determinants of health⁽²³⁾.
- 3 Adopted in 1986 at the First International Conference on Health Promotion, held in Ottawa, Canada, the *Ottawa Charter for Health Promotion* identified five key strategies for health promotion practice and “new public policy” which included building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services⁽²⁵⁾. The Ottawa Charter has been credited by some writers as fueling the diffusion of the ecological approach in health promotion⁽¹⁷⁾.
- 4 The “broader determinants” of health generally refers to societal factors such as social, economic and environmental conditions.
- 5 Regardless of the method employed, consultation mechanisms should (a) strive for fair inclusion of those parties whose interests are involved or potentially involved and clearly delineate the criteria applied to guide the selection of parties or individuals for consultation, (b) consider both *breadth* of representation (that is, how broad the net is cast in terms of the number of different interests consulted), and *depth* of representation (that is, the relative amount of consultation provided by each party consulted); and (c) accommodate the varying level of consultation required throughout the developmental phases of a population health initiative or project⁽⁴³⁾.
- 6 Generally, the term “health goals” is used in a generic sense and refers to a planning framework that typically includes goals, objectives, indicators, targets and strategies. In its specific form, “goals” refer to broad statements of desired conditions that are potentially attainable in the long term. “Objectives” are specific, measurable statements of intent that state the direction of expected change and strive to answer the questions of “who,” “how much,” “of what,” and, “by when.” “Indicators” constitute measures or statistics that allow measurement of change or progress. “Targets” are quantified statements of the amount and timing of desired change expected on an indicator, are usually stated in rate form, and stipulate the date by which the jurisdiction expects to achieve the change. “Benchmarks” are a reference point, a constant against which measurements and comparisons can be made. “Strategies” or “priority actions” comprise the specific actions taken or methods employed to accomplish the stated goals and objectives⁽⁵⁾.

The Population Health Template:

- 7** Difficulties in setting targets for the determinants of health is due to (a) a paucity of relevant data in sectors outside health, or (b) reluctance on the part of colleagues in other sectors to share information that would assist the target setting process. Research also demonstrates that while political leaders often support accountability measures, they may resist setting quantified targets because doing so may (a) require an infusion of new funds, (b) compel difficult resource reallocation decisions, and (c) prove to be politically embarrassing to the government of the day (if the targets are not met)^(5,6).
- 8** Although the international literature reveals significant examples of population health approaches, less is documented on their effectiveness. The paucity of evaluation research has been due in large part to the limited life span of population health initiatives. More time is needed for population health initiatives to unfold before they can be evaluated for effectiveness outcomes. This should not, however, delay the ongoing development of evaluation methodologies for future application.
- 9** Health impact assessment tools vary by evaluation criteria. They include: (a) likely effect of proposed interventions (policy/program/activity) on current and future population health status, (b) potential for decreasing inequities in health status between population groups, (c) potential number and characteristics of people expected to benefit, (d) degree to which proposed intervention is consistent with meeting health targets (related to health status and health determinants), (e) effectiveness of the intervention, (f) resource requirements for interventions, and (g) difficulties with implementation⁽²⁵⁾.

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