Pathways to health equity and differential outcomes: a summary of the WHO document *Equity, social determinants and public health programmes*
**Equity, social determinants and public health programmes** is a report published by one of the nine knowledge networks of the World Health Organizations’ Commission on Social Determinants of Health.

The Priority Public Health Conditions Knowledge Network examined public health “interventions and implementation approaches to halt growing or reduce existing inequities in health.”

Because this report was released after the Commission’s main report and reports by other networks, it received little attention. The National Collaborating Centre for Determinants of Health (NCCDH) has summarized *Equity, social determinants and public health programmes* to help public health organizations and practitioners plan and deliver more nuanced interventions to advance health equity.

The aim of this Knowledge Network was to pragmatically explore public health practice options for action on the social determinants of health (SDH). Using an extensive, international network of researchers, the Knowledge Network undertook a scientific review of literature about interventions to address 12 different public health conditions. The conditions researched were: alcohol, cardiovascular disease, health and nutrition of children, diabetes, food safety, mental disorders, neglected tropical diseases, oral health, unintended pregnancy and pregnancy outcome, tobacco use, tuberculosis, violence and unintentional injury. Additionally, the Network contracted 14 case studies to learn from implementation of SDH approaches used in different countries. Each case sought to learn about factors that support scaling up local experiments and projects and making them sustainable. As an outcome of its research, the Knowledge Network proposed a range of actions that can be taken by public health organizations to achieve more equitable health outcomes, either as a single organization or across national and provincial jurisdictions. The analysis of potential actions is presented for each of the 12 public health conditions and synthesized to identify common lessons and serve as a basis for coordinated action.

A key learning for Canada from this report is in the analysis of how exposure to risk conditions by dissimilar populations leads to varied health outcomes and differing adoption of risk behaviours. Health outcomes are defined in several ways, not just as health-care related treatment and disease outcomes for individuals. For instance, the concept of ‘vulnerability’ helps show how similar levels of exposure to a risk condition result in different outcomes for unlike populations. ‘Consequences’ is used to bring attention to quality of life impacts of poor health that differ across population groups.

The report is an international analysis, drawing upon research from both developed and developing countries. Although not all proposed interventions have bearing throughout Canada, we can draw upon the experience and evidence from middle and low income countries to design Canadian strategies. Such learning may apply especially in remote, rural and Northern regions and in communities with high intergenerational transfer of disadvantage.

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*a* Hereafter referred to as the Knowledge Network or the Network.
Framework of analysis

The analytic framework proposed as a finding of the Knowledge Network’s international research is a hierarchical model that defines five ‘levels’ of causation/influence on SDH that encompass societal structure, environments, population groups and individuals, with each level influencing the levels that follow. In simple terms, social stratification leads to population group differences in exposure to risk conditions and the likelihood of adopting risk behaviours. This, in turn, leads to differences in vulnerability to risks, variable health outcomes, and differential quality of life impacts [what the framework terms ‘consequences’]. This framework will help practitioners deepen their conceptual understanding, and give them the tools to assess feasibility and impact of interventions designed to address each level in order to: decrease social stratification; reduce exposure to risk factors and risk conditions; lessen vulnerability; reduce differential outcomes; and reduce inequitable consequences.

**FIGURE 1. Priority public health conditions analytical framework**

**INTERVENE**  
**ANALYSE**  
**MEASURE**


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b Readers are encouraged to also learn about complementary analysis and approaches to SDH and health equity by becoming familiar with other frameworks. The Canadian Council on Social Determinants of Health, an intersectoral advisory group to the Public Health Agency of Canada, found and analyzed 36 determinants related frameworks and selected seven as being particularly useful in Canada today: *Review of Social Determinants of Health Frameworks*.

c Social stratification refers to hierarchical ranking of groups of people and the societal systems that create such ranking.
The five levels seen in Figure 1 are as follows.

1. **SOCIOECONOMIC CONTEXT AND POSITION**
   *(society)*
   To reduce health inequities, public health must understand – and address – social stratification factors such as class, gender, ethnicity-race, education, occupation and income; all of which are, in turn, determined by governance, policies and societal values.

2. **DIFFERENTIAL EXPOSURE**
   *(social and physical environments)*
   Socioeconomic context and position are inversely related to exposure to many risk conditions: the lower a group’s or individual’s social status, the greater the probability of exposure to risk conditions such as unhealthy housing, dangerous working conditions, inadequate food access, social exclusion and sub-standard availability of recreational resources.

3. **DIFFERENTIAL VULNERABILITY**
   *(population group)*
   The effect of social position and exposure to risk conditions are amplified further downstream because the same level of exposure may have different effects on different groups, suggesting differing vulnerability as a result of the clustering of risk conditions in some population groups. Although the evidence base remains limited, indications show that grouped risk factors in low income and marginalized groups may significantly amplify health effects.

4. **DIFFERENTIAL HEALTH CARE OUTCOMES**
   *(individuals)*
   Social position, exposure and vulnerability are further compounded when the delivery of health care – and related public health interventions – does not adjust for socially determined circumstances. Consequently, programs and services are not appropriate to, or are less effective for, certain populations.

5. **DIFFERENTIAL CONSEQUENCES**
   *(individuals)*
   Advantaged groups in society are better protected from the social and economic consequences of ill health. This means that consequences of illness and injury — such as loss of income, reduced ability to work, worsened social isolation or exclusion — have a deeper negative impact for those who experience intersecting disadvantages at the four levels above.

In developing their framework, the Knowledge Network drew upon life course theory. Life course approaches are population-focused; combine a focus on health equity and social determinants and also on how biology and environment interact; and explain how health develops throughout the life span and intergenerationally. Medical models tend to analyze health patterns by disease, with each disease or condition generally analyzed in isolation from other diseases. By contrast, life course approaches shift attention to how broad social, economic and environmental factors are “the causes of the causes” of tenacious disparities in health for a wide range of diseases and conditions. Life course models analyze how the combination, accumulation, and/or interaction of the social environments and biological insults experienced throughout the life course impact current and future events, environments, and health conditions and thus ultimately impact adult health.

d Sir Michael Marmot, Chair of the World Health Organization’s Commission on the Social Determinants of Health, is credited with brokering the term ‘causes of the causes’ to describe the primordial societal-level causes that determine health. An early source document is Social determinants of health inequalities.
Applying the framework to the public health challenge of cardiovascular disease

The framework was applied to each public health condition researched by the Knowledge Network. Each condition was the topic of a chapter, and each chapter included in *Equity, social determinants and public health programmes* grounded its analysis in the differential health outcomes level, and looked upstream\(^e\) to investigate the conditions’ causal pathway. Authors then proposed interventions and related measurement.

This summary focuses on the chapter *Cardiovascular disease: equity and social determinants* by Shanthi Mendis and A. Banerjee\(^f\). Its objective is to show an example of how the Knowledge Network’s framework applies to a major Canadian health challenge. Cardiovascular disease (CVD) is a leading, and increasing, cause of mortality and morbidity, both within Canada and around the world. In developed countries, including Canada, CVD shows an inverse relationship with socioeconomic status (SES) which is strongest for stroke, with low socioeconomic groups showing higher stroke incidence and lower survival. Studies link SES with behavioural risk factors and also with material and psychosocial risk conditions that contribute to CVD development and outcomes. Using the Knowledge Network framework can help public health organizations reassess and modify CVD and other prevention programs.

**FIGURE 2.** Conceptual framework for understanding health inequities, pathways and entry-points\(^g\)

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\(e\) See the NCCDH’s *Let’s Talk: Moving Upstream* for an explanation of the concepts of upstream and downstream. In essence, upstream approaches address communities’ and people’s access to the determinants of health by reforming fundamental social and economic structures. Downstream approaches increase equitable access to health and social services, at an individual or family level. Midstream approaches reduce exposure to hazards by improving material working and living conditions or reduce risk by promoting healthy behaviours. See also, *Upstream*,\(^g\) a Canadian movement to create a healthy society through evidence-based, people-centered ideas that reframe public discourse about SDH.

\(f\) This chapter, and each of the other condition chapters, is well researched; evidence-informed and heavily cited. To make for easier reading, this summary does not cite the numerous source references used in the *Cardiovascular disease: equity and social determinants* chapter. Please refer to the full report text for the complete list.

\(g\) This figure has been modified for clarity purposes by removing references from within the figure. Please see the original figure in the Knowledge Network’s report for full details.
Differential exposure, vulnerability and consequences:

Lower SES, education, occupation and income are associated with higher CVD-related mortality. In high-income countries, poor accessibility to health services, lack of parks and sports facilities, prevailing community attitudes towards health-related behaviours, and lack of social support have been associated with CVD mortality. A portion of the disparity in CVD incidence across the social gradient is attributable to recognized individual risk factors, e.g. smoking, alcohol use, hypertension, and diabetes. This is not surprising given that tobacco use and unhealthy diets are inversely related to social position, in part resulting from differential access to healthier options.

It is important to be aware that the same level of exposure to risk factors may create differing effects on different population sub-groups depending on social and physical environments, life course factors and lack of early detection or intervention related to risk factors and conditions. For instance, evidence is mounting that low SES in childhood negatively impacts adult CVD risk factors and incidence.

Literature demonstrates troubling equity gaps in the implementation of interventions and treatment for CVD (as well as other non-communicable diseases). Although more pronounced in low income countries, patterns suggestive of inequity are also found in developed countries and give rise to differential outcomes and consequences. For example, European studies have found a higher case fatality for myocardial infarction linked to low SES position, and that higher SES is associated with greater likelihood of specialist and large hospital treatment as well as medication for secondary prevention. Also in Europe, researchers have identified a relationship between low SES and significantly worse long-term disability outcomes and health-related quality of life post stroke. Social consequences associated with lower SES that cross numerous diseases and issues include lack of employment benefits that allow individuals paid recuperation time, coverage of child care and financial support for allied services. Accordingly, loss of employment with a resulting downward spiral is a very real risk of any health challenge for people with low income.

Interventions and entry-points:

Although the chapters in the Knowledge Network’s report vary for each of the 12 public health conditions researched, all chapters consider promising entry points and interventions analyzed in relation to each of the five causal levels of the framework. Continuing to draw upon the CVD chapter, this NCCDH summary describes highlights from the report’s analysis at each level starting with the most upstream, i.e. socioeconomic context and position, to the most downstream, i.e. differential consequences.

Socioeconomic context and position: The social determinants that most impact social stratification are gender; social status and inequality; rapid demographic change (e.g. aging); social exclusion; globalization and urbanization. Entry points for CVD-related health equity interventions relate to institutionalization and legislative policies that protect rights, redistribute power and shift access to opportunities. Proven and reasonable interventions are poverty reduction, including changes in taxation, income and employment; improving universality of quality primary education; and designing programs to alleviate poor nutrition among women of childbearing age.

Differential exposure: The social determinants most associated with this level are social norms; community settings and infrastructure; unhealthy and harmful consumables; non-regulated markets and outlets; advertisement
and television exposure. Entry points for CVD-related health equity interventions are improving community infrastructure, increasing access to healthy foods, reducing affordability of harmful products and balancing health effects of modernization. The Network’s research identified the following interventions as most likely to impact exposures: legislation and regulation; voluntary agreements with industries; international trade agreements; taxation; improved community infrastructures and built environments; and informative product labelling.

Differential vulnerability: The social determinants linked to CVD-vulnerability are poverty and unemployment; low education and knowledge; tobacco use and substance abuse; low access to health care (including low utilization rates and poor service delivery); family and community dysfunction; food insecurity and malnutrition. Here the entry points for CVD-related health equity interventions involve making healthy choices the easy choices, compensating for lack of opportunities, and empowering people. The interventions identified by the researchers’ scoping are: school food programs; subsidized healthy foods; pricing structures for foods; targeted health promotion and early detection of CVD-contributing health status (e.g. diabetes); poverty reduction strategies combined with incentives; provision and utilization of social insurance and coverage; education and employment opportunities (internationally, and specifically for women).

Differential health outcomes: The social determinants related to CVD health outcomes are the poor quality and discriminatory nature of treatment and care services, as well as limited patient interaction and adherence. Entry points for CVD-related health equity interventions at this level are improved provision of health care procedures and provider practices. Recommended interventions are targeted programs; incentives and supports; universally available and accessible primary care; awareness among providers about ethical norms.

Differential consequences: The social determinants correlated with CVD-associated consequences are social, educational, employment and financial consequences; social exclusion and stigma; exclusion from insurance. Here the entry points for CVD-related health equity interventions are social and physical access. The evidence-based interventions identified by the Network’s research are workplace policies and safe environments, increased access to services for people with risk conditions, improved referral to social welfare and health education.

**Synergy for equity**

The report’s final chapter, *Synergy for equity*, was generated through a multi-phased process to identify commonalities that public health can draw upon across public health conditions. Drawing on the findings from the conditions-specific research and the Network’s case study research, the authors identified for each level the most associated determinants; three promising entry-points; up to three possible interventions per entry point; likely decision-makers and influencers; major lessons; data collection and monitoring issues; and implications for public health organizations, including risks and unintended side-effects.

The key lessons learned by the Knowledge Network from the synthesis of the research findings on the public health conditions are grouped under seven headings.

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h The chapter identified increasing ‘awareness’ as an intervention. In Canada, this should be expanded to include related competencies and skill to consistently practice ethically.
Values: To address variance in values and beliefs among societal influencers, the authors suggest paying high attention to value conflicts, educating politicians and government leaders about equity in health, and partnering between government, nongovernmental organizations and the private sector.

Leadership: The authors argue for a formal guidance role by ministries of health to combine visionary technical leadership and accountability; nurturing and training of leaders’ role in health equity; and developing roles for allied leaders outside formal public health.

Intersectoral collaboration: To engage all the sectors that need to be involved for success, the authors emphasize the importance of identifying goals held in common and potential synergies; recognizing and managing different cultures and perspectives; and keeping leaders visible and present.

Scaling up: Transferring ownership is found to be essential, as is managing project modifications – even substantial changes – to make implementation feasible at scale; along with attention to cross-sector knowledge, tools and accountability.

Communication: All stakeholders need to understand the magnitude of health inequities, why these problems need to be corrected and how to address the challenges. This includes communicating complex concepts, changing attitudes and clarifying roles and responsibilities.

Risks: Resistance and conflict identification and management are required early on. Deep understanding is important to counteract widespread comfort with – and desire for quick – downstream fixes that will fall short of effectively mitigating or eliminating root causes of inequity. The report also cautioned against over dependence on only one or a handful of leaders.

External agencies: The researchers identified major donors as essential, yet cautioned that donors are rarely value neutral and frequently want to demonstrate short-term results, sometimes without an understanding of, nor commitment to, capacity-building strategies. This research finding relates to the role of international aid in many countries; the parallel in Canada is that government, charitable sector and private funding demonstrate similar patterns. Thus, funding ultimately brings risks along with dollars.

Appropriate measurement is a core recommendation of Equity, social determinants and public health programmes. The authors found that remarkably few data were available that systematically linked population factors with health and social outcomes. They cite a shortfall of service data that includes social background of clients; data about who doesn’t access service; and data about differential services delivered and differential consequences experienced. The research undertaken about each priority public health condition helped pinpoint four major measurement concerns, namely: aggregated data loses or masks differentials and variances; small data sets are insufficient to provide a strong statistical base for analysis; unforeseen adverse social effects might not be captured in data being collected or assessed by public health; counteraction is delayed because trends are only noticed once they are fully manifested.

Although each specific public health condition research team catapulted its research from the pivot of outcomes, the report ends by arguing that, in relation to all of the health conditions, public health must “look upstream to diversify and expand the range of interventions to influence the social determinants before they manifest in different vulnerabilities and health care outcomes” and that greater attention
must be given to whole populations, rather than emphasizing needs of and services to individuals.\textsuperscript{1, p 277}

The authors contend that individual public health programs should pursue the following actions: improve information systems to monitor how condition-associated health/ill health is distributed; strengthen organizational and program capacity; develop a range of ‘intervention packages;’ and become skillful at advocating inclusion of SDH approaches into public health practice as well as broadly into societal debates.

**Implications for Canadian public health**

Canada has a scattershot mix of expectations, systems and methods for public health to address social determinants and advance health equity. Similarly, system, organizational and program capacity are uneven throughout the country and capability to advance health equity remains in early stages in most of Canada. Implications for Canada’s public health system are briefly noted, starting with recommended actions in *Equity, social determinants and public health programmes*.\textsuperscript{1}

Improving information systems: Many provinces and territories, the federal government and several cities have produced equity-inclusive health status reports. The Canadian Population Health Initiative at the Canadian Institute for Health Information has published *Trends in Health Inequalities in Canada*\textsuperscript{10}, an examination of national and territorial/provincial income-related health data over time. The Public Health Agency of Canada, the Canadian Institute for Health Information and Statistics Canada are producing data illustrating health inequalities for various sub-populations across a wide range of measures.\textsuperscript{11} An action framework to support equity-informed population health status reporting by the National Collaborating Centres proposes useful practices.\textsuperscript{12} Yet, especially at local and regional levels, challenges of availability and access to sound and timely data, discordant data collection boundaries and data sharing limitations are likely to remain significant.

Strengthening organization and program capacity: Both forward momentum and continuing gaps are observable in regards to capacity. At the federal level, the population-oriented institutes of the Canadian Institutes for Health Research (CIHR) demonstrate a strong commitment to moving knowledge regarding health equity into practice. Notable are equity-requirements for the Institute for Population and Public Health’s applied research chairs and programmatic grant teams and CIHR’s Pathways to Health Equity for Aboriginal Peoples’ signature project. Selected academics and research projects\textsuperscript{13,14} are assessing public health organizational models and system considerations and tools/methods to advance health equity action by public health organizations.

However, not all provinces/territories have standards requiring integration of health equity into public health policies, programs and practices. As well, the core public health competencies and nearly all discipline-specific competencies still fall short in terms of social determinants and health equity.\textsuperscript{15,16} Under-resourcing continues to be the norm, rather than the exception, with respect to equity-focused specialists: the majority of provinces/territories and health authorities don’t yet have equity specialists, nor clear assignments for health equity on the part of leadership beyond medical officers.
Developing intervention packages: Canada has not yet begun to develop ‘intervention packages,’ although a wide range of interventions are used at local/regional, provincial/territorial and national levels. The Public Health Agency of Canada’s multi-year projects being funded by the Innovation Strategy grants and CIHR-funded population health intervention research will, in effect, promote selected well evaluated interventions for wider translocal modification and scaling up.

Becoming skillful at advocating: Skill at including SDH into policy and societal debates is, not surprisingly, also varied across the country. Some medical officers of health, in particular, are very skillful at using media to influence community awareness and policy options. Yet, advocacy practices and communications expertise are not consistently taught, integrated into competencies nor reflected in standards. As well, constraints on the public sector to influence policy mean that the Canadian Public Health Association, provincial public health associations and professional discipline-specific organizations (e.g. Community Health Nurses of Canada) must extensively engage in policy and societal discourse as they struggle with diminishing resources.

Implications for Canada can also be seen by considering how Canadian public health practice attends to all five levels of the proposed framework. In Canada public health does not yet have a significant focus on modifying programs and practices and championing policies to address levels 2 (vulnerability) and 5 (consequences). Inconsistently and in some jurisdictions more than others, public health has designed interventions that combine modified initiatives targeted to specific sub-populations within a universal approach to address differential exposure (level 2). Good examples include Healthy Babies Healthy Children programs, programs tailored to culturally/ethnically-specific populations, literacy interventions and public health contributions to improve built environments. Primary care in some jurisdictions is encouraging physicians and nurses to ask patients about income and then make appropriate referrals.1

Public health tends to focus on improving access to services and programs, but not yet widely assessing equity of outcomes (level 4) and consequences (level 5). An often cited example of changing service to change outcomes is Saskatoon’s immunization programming that successfully increased childhood immunization rates for children living in low-income neighbourhoods. In some jurisdictions, primary care, often with public health as a partner, is experimenting to improve equitable outcomes that result from clinical services; a front-runner in this regard is the Toronto Central Local Health Integration Network k where a project to measure health equities l is underway to establish a framework with accountabilities and track and monitor change.

Equity, social determinants and public health programmes makes a strong plea to re-focus public health efforts toward societal-level healthy public policy. Interestingly, policy considerations to minimize differential consequences frequently have an upstream as well as downstream impact. Policy examples to minimize health consequences resulting from

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i See Let’s Talk: Advocacy and Health Equity 17 to learn more about various approaches to using advocacy to advance health equity.

j The Ontario College of Family Physicians has an excellent webpage, Primary Care Interventions in Poverty 18

k Local Health Integration Networks are an Ontario-specific structure with some similarities to the health authorities found in other provinces and territories. A notable distinction is that public health functions outside of local health integration networks, yet inside regional and provincial-level health authorities.

l An introductory video 19 to the project is available, along with related resources.
disadvantage include influencing minimum wage, sick and family care paid leave, job security, and taxation policies to support individuals who experience discrimination. These are all upstream, influencing all levels of the framework. Programmatic modifications to reduce more frequent and SDH-linked worsened health consequences (mid and downstream) would include subsidies for childcare, increased phone and home visitor supports, housing and community care workers, placement of clinical services within high need areas and travel subsidies for support services impossible to relocate.

A shift in Canadian public health practice towards more intersectoral, development-oriented upstream approaches to complement (and, in some cases, replace) wide-spread service models would represent a significant contribution to working towards equity.

REFERENCES


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