

From Stroke Prevention to Health Gain

Module 4: Chronic Disease Prevention Models

Research shows compelling results

In this module, **policy-makers, managers and health practitioners** will find valuable information to help in developing or adapting a chronic disease prevention model.

Data source for this module

The authors selected three sets of guidelines for community-based prevention programming, from documents which had been identified in the development of the section on current approaches.

The first two guidelines were selected because they were developed on the basis of a systematic distillation of international experience and thus could bring to bear a larger amount of evidence than could be assessed directly in the available time. The third was selected because it reflected knowledge of both the Ontario context and evidence on effectiveness of community-based prevention.

As a first step, the authors used simple tables to cluster related guidelines. The ensuing analysis and synthesis (including the “Proposed Model for Ontario”) were entirely the product of professional judgment and are not, strictly speaking, methodical.

Full report

Mills, C., Manske, S., Dobbins, M., & Cameron, R. *From Stroke Prevention to Health Gain, Final Report.* CCS/NCIC Centre for Behavioural Research and Program Evaluation, University of Waterloo, Waterloo, Ontario, 2002.

With funding from Ministry of Health and Long-Term Care, Government of Ontario

(Full report available at <<http://www.opc.on.ca>>.)

This research makes the case for integrating primary stroke prevention into a broader strategy for primary prevention of chronic disease. In exploring various approaches, it focuses on the following shared risk factors, which are both modifiable and amenable to a population-based approach.

- hypertension
- obesity
- smoking
- physical inactivity
- diabetes
- excessive alcohol use

Other modules in this series

Module 1. Burden of Stroke and Scope for Prevention

Module 2. Effectiveness of Interventions

Module 3. Current Approaches

Module 4. Chronic Disease Prevention Models

Module 5. Rationale for Integrated Approach

Practical and Ethical Considerations

Public health is “the science and art of preventing disease, prolonging life and promoting health through the organised effort of society.”^{*129} **Population health** is the conceptual model which underpins the practice of public health. In the simplest terms, population health is how we think; public health is what we do.

Ethical public measures are those that accomplish their purpose through the least intrusive means. This applies

to decisions about population-based activities for at least two reasons:

- Chronic disease prevention uses tax dollars which might otherwise be spent on other social priorities.
- The concept of autonomy is not restricted to individuals. Communities today demand to be actors in, not passive recipients of, social policy, and governments ignore at their peril what Lawrence Green refers to as the participatory imperative.^{*130}

3 Models to Consider

With the key dimensions of effectiveness, efficiency and participation in mind, we reviewed three sets of guidelines for prevention activities. See the following sheet for details.

1. Planned Approach to Community Health (PATCH)
Center for Disease Control, USA

2. Center for Substance Abuse Prevention—Substance Abuse and Mental Health Services Administration (CSAP-SAMHSA), USA.^{*132}
3. Ontario Heart Health Network’s (OHHN) continuation plan^{*133}

Model 1

PATCH contains the following factors found to be consistently present in successful cardiovascular disease prevention interventions around the world.

- strong core local support and participation in the process
- collection and analysis of local data and health issues
- setting objectives and standards to assess progress

- use of multiple intervention strategies to meet objectives including strategic application of behavioural sciences, community mobilization, health education, and mass media
- continuous monitoring of problems and intervention strategies to evaluate progress and detect the need for change
- securing support of a public health infrastructure (system).^{*134}

Model 2

The **CSAP-SAMHSA guidelines** (see Figure 8.1) are the most fully developed, both conceptually and in terms of tools provided to support planning. There is a striking correspondence between the categories they use and what we have described as the dimensions critical to a public health approach:

- Effectiveness relates principally, although not exclusively to selection of strategies.
- Efficiency relates to implementation considerations.
- Participation relates to interrelationships and appropriate structure.

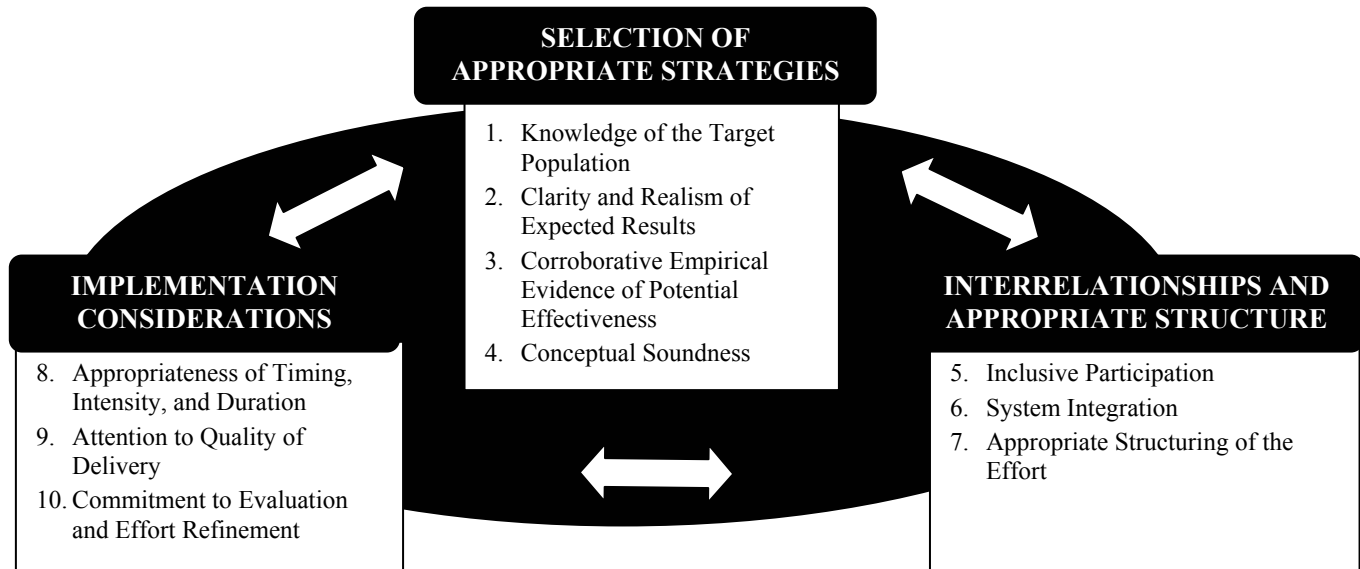


Figure 8.1 [from full report]: CSAP-SAMHSA Guidelines for Prevention Programming (credit: CSAP-SAMHSA^{*135})

Model 3

The **Ontario Heart Health Network's** proposed guiding principles for a community-based delivery system for chronic disease prevention include the following key elements.

- comprehensive community approaches planned and implemented through local and provincial partnerships involving key stakeholders in a single co-ordinated system
- primary prevention of disease and promotion of healthy living as the focus

- local delivery systems that are supported by a provincial system
- stable partnership arrangements between the province, provincial organizations and local communities
- evidence-based approaches and innovation
- mutual accountability of communities and partners
- integrated programs and messages within communities to deliver all chronic disease prevention strategies

Other Points to Consider

There is a high degree of congruence among these three sets of guidelines, and between them and the operating principles we propose in the model presented at the end of this module. Nonetheless, some connections may need to be made explicit.

Sustainability

Sustainability does not appear in either of the preceding sets of guidelines, but some of the attributes described contribute directly to it. For example, we readily recognize **efficiency** as being related to sustainability — we know that if we waste resources our efforts will not be sustainable. Also easy to see is how factors such as system integration and appropriate structuring of the effort — which contribute to efficiency — will also then contribute to sustainability. The links between sustainability and both stability and infrastructure are similarly intuitive. Less obvious perhaps is that the principles of inclusive participation and mutual accountability are also necessary for sustainability. They relate to the building of trust and commitment, without which no program can be sustained.

The **RE-AIM Framework** extends beyond efficacy to consider reach, adoption, implementation and maintenance, all of which need to be assessed at both individual and institutional levels.^{*138}

- Reach into the target population
- Efficacy or effectiveness
- Adoption by target settings or institutions
- Implementation — consistency of delivery of intervention
- Maintenance of intervention effects in individuals and populations over time

Evidence

Evidence comes from a variety of sources and disciplines. Traditionally, public health relied most heavily on epidemiology to detect health threats through surveillance and to understand the causal relationships between exposures and health outcomes. Today we appreciate that we need to understand not only *what* is the case, but *why* it is the case, and what works to change situations that lead to a poor health outcome. The public health science toolbox now includes a broad range of disciplines besides epidemiology: psychology, sociology, evaluation research, health systems research, and more.

Disciplines vary in their ideas about what constitutes rigour, and, therefore, what is accepted as “evidence”.

This can give rise to controversy over when we have enough evidence to act. But it is our duty to act — and many health threats demand a response *before* we have definitive proof. Thus, any strategy or system for disease prevention and health promotion needs not only the means to generate new knowledge (through surveillance and research) but also a systematic process for assessing the state of evidence relevant to public health and for bringing its implications to the attention of decision-makers. This requires infrastructure.

Evidence-based vs Innovative

For related reasons, there can be a certain tension between the concepts *evidence-based* and *innovative*. Breakthroughs come when someone sees a possibility for which there has hitherto *not* been evidence — many effective public health interventions were discovered before the etiologic agent was even identified. Such innovation is integral to an evidence-based approach.

To get the maximum benefits of both breakthrough thinking and painstaking investigation, we need to do the following.

- Link the policy and program components to
 - a) a research agenda and
 - b) a process for synthesizing new knowledge.
- Identify best practices^{*136} for dissemination.

Complexity

Resist the craving for simple solutions! It is impossible to over-emphasize the importance of this. The following list — far from exhaustive — provides an inkling of the number and kind of dimensions we need to consider.

- multiple risk factors
- multiple diseases
- multiple determinants of health (biology, physical environment, socioeconomic environment, culture, health system, etc.)
- multiple populations (whether determined by geography, socioeconomic status, ethnicity, language, age, attitude, etc.)
- multiple channels and settings (home, school, work, community)
- multiple jurisdictions (local, regional, provincial/territorial, national, international)
- multiple disciplines
- multiple stakeholders

Proposed Model for Ontario

This model attempts to synthesize the common elements found in the frameworks we learned about on scanning

the international, national and provincial environment for approaches to chronic disease prevention.

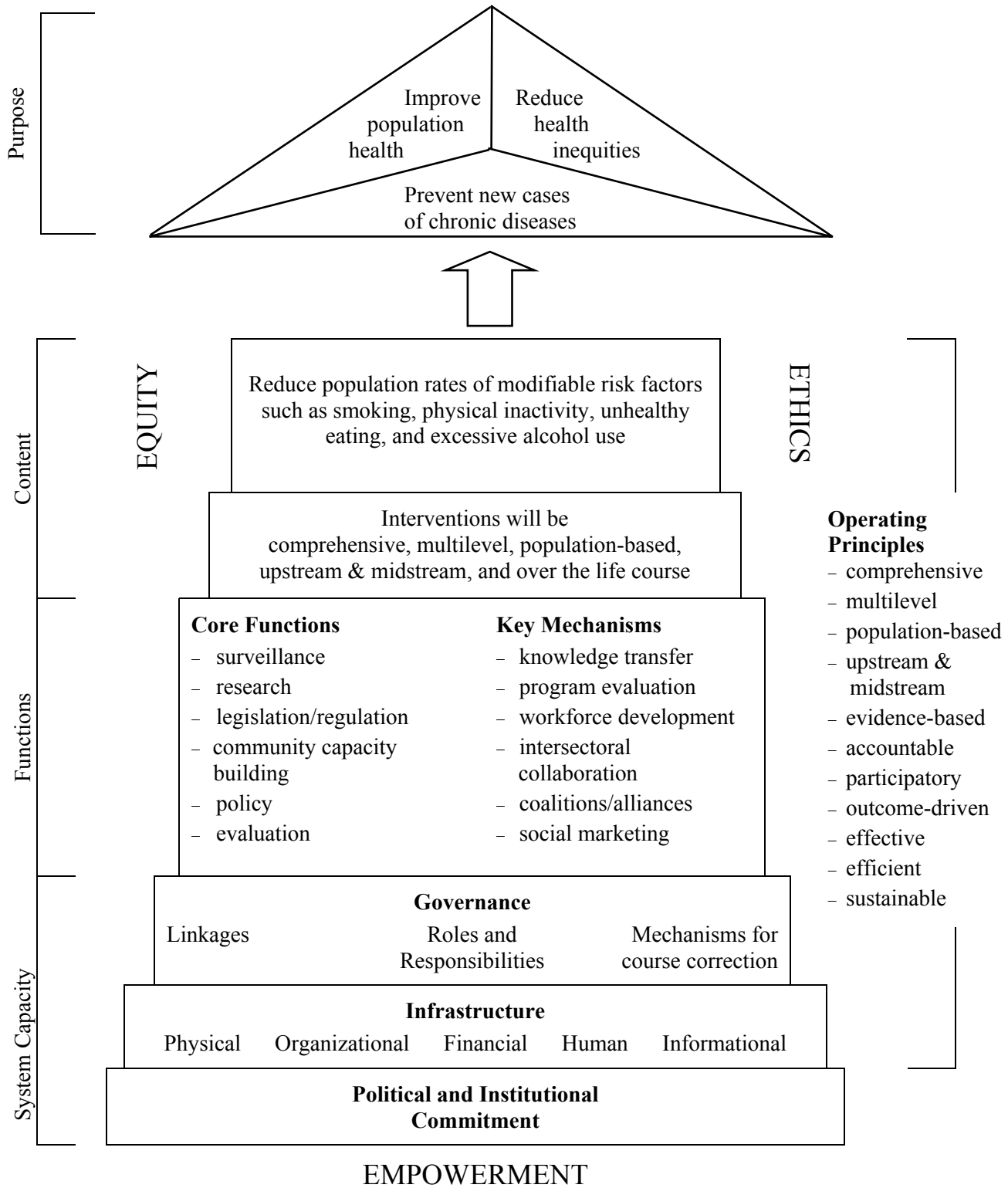


Figure 9.1 [from full report]: Overview of an Integrated Chronic Disease Prevention Approach

*** For all references in this module, please refer to “References” in full report.**