

## **Public Health Task Group**

### **Recommendations to the Council of Deans Concerning Social Accountability and Population/Public Health May 1, 2005**

#### **I. BACKGROUND**

The World Health Organization has defined the social accountability of medical schools as

the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public.<sup>1</sup>

Over the past five years, the Association of Faculties of Medicine of Canada (AFMC) has demonstrated its commitment to social accountability by: 1) collaborating on the development of a vision paper, *Social Accountability: A Vision for Canadian Medical Schools*; 2) forming a working group on social accountability; 3) hosting a Partner's Forum; and 4) establishing a Steering Committee and three task groups – an Aboriginal Health Task Group, a Public Health Task Group and a Young Leaders Vision 2025 Group. AFMC remains committed to supporting the efforts of Canadian faculties of health sciences and medicine to respond to community needs and priorities.<sup>2</sup>

#### **II. PUBLIC HEALTH TASK GROUP PURPOSE AND DEFINITIONS**

The Public Health Task Group met on February 23-24 and held six teleconferences between December 2004 and April 2005. (Appendix A contains a list of members). The purpose of the Public Health Task Group was to

make recommendations to the Steering Committee, Social Accountability Initiative, for consideration by the AFMC Council of Deans concerning what faculties of medicine can do to improve the delivery of essential public health services and other activities to enhance the public's health, through education, research, service and the translation of knowledge into practice.

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<sup>1</sup> World Health Organization, Department of Human Resources in Health, *Defining and Measuring the Social Accountability of Medical Schools*, 1995, Geneva, Switzerland.

<sup>2</sup> For more information on AFMC's Social Accountability Initiative, visit [www.afmc.ca](http://www.afmc.ca).

The Task Group used the following definition of public health, taken from *A Dictionary of Epidemiology*, 4<sup>th</sup> edition, by John Last. Public health is

the combination of sciences, skills and beliefs that is directed to the maintenance and improvement of the health of all the people through collective or social actions. The programs, services and institutions involved emphasize the prevention of disease and the health needs of the population as a whole.<sup>3</sup>

The five main functions of public health are:

- population health assessment;
- health surveillance;
- health promotion;
- disease prevention; and
- health protection.

Population health is defined as

an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.<sup>4</sup>

### **III. INTRODUCTION TO THE RECOMMENDATIONS**

The field of population/public health is evolving rapidly, as a result in part of recent episodes of communicable disease, bio-terrorism and environmental health threats; the development of the Public Health Agency of Canada and the appointment of Canada's first Chief Public Health Officer; and growing public engagement in health promotion and disease prevention. Canadian faculties of health sciences and medicine are key stakeholders in this change process, as well as critical leaders in the preparation of future physicians and graduate-level public health professionals.

In its deliberations, the Public Health Task Group considered a wide range of issues and needs related to education in population/public health, for example, the need to:

- raise the profile of population/public health in post-secondary education and within healthcare institutions, as well as among the general public, health sciences students and health professionals;
- develop better linkages among communities, public health services and academia;
- determine effective models and structures for public health graduate education (i.e., schools of public health and Master's of Public Health programs); and

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<sup>3</sup> John Last (ed.), *A Dictionary of Epidemiology*, 4<sup>th</sup> edition, Oxford University Press, New York, 2001, p.145.

<sup>4</sup> Public Health Agency of Canada, *What is the Population Health Approach?*, Ottawa, 2002.  
[www.phac-aspc.gc.ca/ph-sp/phdd/approach/index.html](http://www.phac-aspc.gc.ca/ph-sp/phdd/approach/index.html)

- better understand career paths, demand for and the required competencies of public health professionals at the undergraduate and post-graduate levels (i. e, in family medicine and community medicine, as well as other professional fields of study).

The Public Health Task Group recognizes that there are significant issues related to health human resources planning, specialty education and population/public health faculty development. These should be addressed over the long-term. In the short-term, the Task Group chose to focus on:

- raising the profile of population/public health in medical education; and
- enhancing undergraduate medical education experience and competencies.

The underlying tenet for the recommendations that follow is that:

**All physicians in Canada should have a thorough understanding of population/public health, and be able to apply this knowledge to individual patients and to their practice populations.**

#### **IV. PUBLIC HEALTH IDENTITY AND ENGAGEMENT**

Population/public health is faced with an “identity crisis” – experiencing high public expectations in the event of a crisis or disaster, but being relatively invisible in day-to-day life. Similarly, Community Medicine is seen as a low status, low paying specialty among medical students, who lack prominent role models and clearly defined career paths as specialists in population or community health. Medical students also often favour “hard” clinical knowledge over “soft” health promotion/disease prevention knowledge and skills. Population/public health education requires revitalization in order to meet the challenges of the future.

**Recommendation 1:** In order to better address population/public health in medical education, medical schools should:

- a. communicate the importance of population/public health knowledge and approaches to students, faculty and the community at large;
- b. promote Community Medicine, non-thesis Master’s and PhD degrees in population/public health-related areas as viable and rewarding career choices;
- c. undertake faculty recruitment and development to increase knowledge of population/public health;
- d. engage communities in meaningful ways in the development and oversight of medical education so that population health needs are reflected in student selection, curriculum content, research priorities and community service;
- e. develop relationships and community capacity in order to provide high-quality student placements, community-based participatory research experiences, internships and residencies in community health settings; and
- f. work with health professionals, managers and policy makers to ensure there are positive role models and career paths for students to emulate and pursue.

## V. UNDERGRADUATE MEDICAL EDUCATION – OBJECTIVES AND COMPETENCIES

Current approaches to population/public health undergraduate medical education vary considerably from school to school. For example, our recent survey of medical schools<sup>5</sup> indicates that teaching hours range from 30 to 90, using different combinations of dedicated and integrated curriculum. While population/public health is addressed in written examinations, only two schools out of nine reported that students are evaluated specifically on this topic using Objective Structured Clinical Examination (OSCE) stations. Very few schools have any formal links to local public health units providing for student placements.

The Public Health Task Group agrees on the importance of enhancing undergraduate medical education related to population/public health. Emphasis should be on providing more in-depth knowledge of population health (and its integration into practice) and decision-making. Canada, of course, is not alone in this regard as other countries such as the U.S. are currently actively pursuing this direction.

**Recommendation 2:** Medical schools should refresh undergraduate education related to population/public health, through development and implementation of:

- a. a dedicated curriculum unit on population health, in addition to integration of population/public health content in all courses;
- b. curriculum that addresses broad determinants of health, health promotion and disease prevention at the individual (clinical), community and population levels;
- c. multidisciplinary and team teaching approaches; and
- d. cross-disciplinary and interdisciplinary learning experiences.

**Recommendation 3:** Medical schools should utilize *Population Health Learning Objectives for Undergraduate Medical Education* in the development of population/public health curriculum. (Appendix B)

**Recommendation 4:** AFMC should work with the Medical Council of Canada to encourage adoption of the learning objectives described in *Population Health Learning Objectives for Undergraduate Medical Education*.

**Recommendation 5:** AFMC should further explore the use of accreditation standards for undergraduate medical education and public health graduate programs to enhance education related to population/public health.

## VII. PUBLIC HEALTH HUMAN RESOURCES – GRADUATE AND POST-GRADUATE EDUCATION

Faculties of health sciences and medicine are central to the education of public health professionals in Canada, including:

- family medicine specialists;
- community medicine specialists (both matched and re-entry positions);

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<sup>5</sup> Medical schools were surveyed by e-mail questionnaire in April 2005. Nine of 17 schools responded.

- all MSc and PhD graduates in public health, community health, etc.; and
- many of the graduates of Master's of Public Health programs.

Hence, medical schools are key stakeholders and sources of expertise in policy and program development related to population/public health. Therefore, Deans of Medicine, represented collectively by the Association of Faculties of Medicine of Canada, should play a role in key national efforts such as:

- development of national public health goals, a national public health human resources strategy and public health workforce core competencies by the Public Health Agency of Canada;
- changes to examination, certification and licensing of public health professionals, such as incorporating population and public health competencies into each core training stream of the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada; and undergraduate learning objectives of the Medical Council of Canada; and
- research related to workforce characteristics, qualifications, demand and supply of various public health professionals.

**Recommendation 6:** Medical schools should provide feedback to the AFMC Public Health Task Group concerning their priorities related to public health human resources and other possible areas such as graduate studies and postgraduate medical education.

**Recommendation 7:** AFMC, at its discretion, should support the Public Health Task Group until December 2005 in order to further investigate and respond to issues related to public health human resources.

## VIII. REFERENCES

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## APPENDIX A – PUBLIC HEALTH TASK GROUP MEMBERS

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## **APPENDIX B – POPULATION HEALTH LEARNING OBJECTIVES FOR UNDERGRADUATE MEDICAL EDUCATION<sup>6</sup>**

### **PREAMBLE**

The Association of Faculties of Medicine of Canada (AFMC) has been focusing on the theme of the social accountability of medical schools by encouraging a broad understanding of the expectations of society and strategies to meet them. Over the past five years the AFMC has collaborated on the development of a vision paper, *Social Accountability: A Vision for Canadian Medical Schools*; formed a working group on social accountability; held a Partner's Forum; and established a Steering Committee and three task groups – a Public Health Task Group, an Aboriginal Health Task Group and a Young Leaders Vision 2025 Group.<sup>7</sup>

The Public Health Task Group created these population health learning objectives for undergraduate medical education as a part of its mandate to develop “recommendations concerning what faculties of medicine can do to improve the delivery of essential public health services and other activities to enhance the public's health, through education, research, service and the translation of knowledge into practice.”

### **RATIONALE**

Historically, the major advancements in the health of the public have come from interventions at the population level. As documented by McKeown (1979), the fall of mortality from tuberculosis preceded the development of effective antibiotics. Improvements in nutrition and housing are commonly viewed as the major causes of this health gain. Publications by the World Health Organization (1986;1997) speak to the importance of the determinants of health. Recent studies of cardiovascular mortality in Ontario (Alter et al., 1999) confirm the importance of non-medical determinants of health and the need to act at a population level.

Over the last few decades, more and more services are being transferred to the community. The rise of home care programs, closing of both regular hospital beds and those for specialty care, such as Tuberculosis and mental health, have placed more emphasis on community-based care. Practicing physicians are expected to work with community agencies and must take a broader perspective of health in order to meet the current needs of their patients. The emphasis on “community-oriented primary care” is a direct attempt to apply population health principles to community-based practice of medicine (Sackett et al., 2000). Hence, physicians need to have a firm understanding of population health in order to practice medicine in Canada.

### **POPULATION HEALTH LEARNING OBJECTIVES**

These five learning objectives are presented as a guideline for the development of undergraduate medical curriculum. The focus on population health interventions at both the clinical and community level is not intended to detract from the importance of health promotion and disease prevention at the patient level.

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<sup>6</sup> The Public Health Task Group gratefully acknowledges the use of an original draft of Population Health Learning Objectives developed by Dr. Ian Johnson, Department of Public Health Sciences, University of Toronto.

<sup>7</sup> For more information on AFMC's Social Accountability Initiative, visit [www.afmc.ca](http://www.afmc.ca).

## **Population health 01 – Concepts of health and its determinants**

### **Rationale:**

Concepts of health, illness, disease and the socially defined roles of sickness are fundamental to understanding the health of a community and to applying that knowledge to the patients that a physician serves. The physician must understand and apply these concepts in order to understand health and illness behaviour.

### **Terminal objectives:**

- Define and discuss the concepts of health, illness, disease and socially defined concept of sickness.
- Understand and be able to explain concepts of determinants of health and how they affect the health of a population.
- Apply the principles of epidemiology to common office and community health situations.

### **Enabling objectives:**

- As defined by Health Canada and the World Health Organization:
  - discuss the definitions of health;
  - describe the determinants of health. These include:
    - Social environment – income, education and social support
    - Physical environment – housing, working conditions, peace and security
    - Biologic and behavioural factors – smoking, diet, exercise
    - Genetic factors
    - Equity of access and special needs of certain populations;
  - explain how factors such as geographic location, gender, and ethnic origin influence some of the determinants of health, and explain how health status is in turn influenced by differential allocation and distribution of some of the determinants of health; and
  - explain the possible mechanisms by which determinants influence health status.
- Discuss the concept of natural history of disease particularly with respect to possible clinical interventions.
- Describe the concept of illness behaviour and its influence on access to health care and adherence to recommendations.
- Discuss the implications of culture on health, particularly as related to definitions of health and appropriate health practices.

## **Population health 02 – Assessing and measuring health status at the population level**

### **Rationale:**

Knowing the health status of the population allows for better planning and evaluation of health programs and tailoring medical treatments to meet patient/community needs. Physicians also are active participants in disease surveillance programs.

### **Terminal objectives:**

- Using a broad definition of health, describe the health status of a defined population.
- Discuss the factors that affect the health status of a population with respect to the principles of causation.

### **Enabling objectives:**

- Interpret the health status of a defined population by:
  - calculating and interpreting rates of disease as they pertain to clinical practice
  - describing and interpreting the demographic profile, birth rates, mortality rates, and rates of common infectious diseases; and
  - evaluating clinical and epidemiological data by interpreting simple statistical test results.
- Explain the importance of accurately coding and recording health information into databases that are used to monitor the health of the population.
- Demonstrate an ability to use practice-based health information systems so as to monitor the health of their patients and identify unmet health needs.
- Describe the concepts of incidence, prevalence, attack rates, case fatality rates and the principles of standardization.
- Apply the principles of epidemiology by accurately discussing the implications of different graphical presentations of data.
- Discuss different measures of association including relative risk, odds ratios, attributable risk and statistical associations.
- Describe the principles of causation including the criteria for assessing causation.
- Be aware of important sources of population-level health data and recognise the advantages and disadvantages of each of them.
- Demonstrate an ability to evaluate research findings with particular reference to the following elements:
  - characteristics of study designs (RCT, cohort, case control, cross sectional);
  - measurement (bias, error, reliability, distributions, measurement, terminology), measures of central tendency, validity, sensitivity, specificity, positive predictive value, negative predictive value, measures of health and disease (incidence rates, prevalence rates, odds ratios, relative risk and attributable risk); and
  - sampling.

## **Population health 03 – Interventions at the population level**

### **Rationale:**

Many interventions at the individual level must be supported by actions at the community level. Physicians will be requested to comment on community wide interventions or to address issues that occur to many patients across their practice. Hence knowledge and skill in health promotion and diseases prevention measures are important.

### **Terminal objectives:**

- Understand the three levels of prevention (primary, secondary and tertiary).
- Be familiar with strategies for community needs assessments, health education, community engagement and health promotion.
- Appreciate the role that physicians can play in promoting health and preventing diseases at the individual and community level (e.g. prevention of low birth weight, immunization, obesity prevention, smoking cessation, cancer screening, etc.).

### **Enabling objectives:**

- Be able to both define the concept of primary, secondary, and tertiary prevention at the individual (clinical) and population levels, as well as formulate preventive measures into their clinical management strategies.
- Describe the advantages and disadvantages of identifying and treating individuals versus population-level approaches to prevention.
- Name and describe the common methods of health protection (such as agent-host-environment approach for communicable diseases, and source-path-receiver approach for occupational/environmental health).
- Describe the importance and impact of good, culturally-appropriate communication with the patient, the patient's family and, if necessary, the community as a whole with regard to risk factors and their modification.
- Demonstrate an ability to apply the principles of screening and be able to evaluate the utility of a proposed screening intervention.
- Describe the five strategies of health promotion as defined in the Ottawa Charter and apply them to relevant situations.
- Evaluate one or more models of behaviour change, including predisposing, enabling and re-enforcing factors.
- Identify the potential community social, physical and environmental factors that might promote a healthy lifestyle, as well as ways to assist communities in addressing these factors.
- Identify ethical issues with the restraining of individual freedoms and rights for the benefit of the population as a whole (e.g., issues in designating non-smoking or restricting movements of person with active tuberculosis).

## **Population health 04 – Administration of effective health programs at the population level**

### **Rationale:**

Knowing the organization of the healthcare and public health systems in Canada as well as how to determine the most cost-effective interventions are becoming key elements of clinical practice. Physicians also must work well in multidisciplinary teams within the current system in order to achieve the maximum health benefit for all patients and residents.

### **Terminal objectives:**

- Know and understand the pertinent history, structure and operations of the Canadian health care system.
- Be familiar with economic evaluation such as cost-benefit/cost effectiveness analyses as well as issues involved with resource allocation.

### **Enabling objectives:**

- Describe at a basic level:
  - methods of regulation of the health professions and health care institutions;
  - supply, distribution and projections of health human resources;
  - health resource allocation;
  - organization of the Public Health system; and
  - role of complementary delivery systems such as voluntary organizations and community health centres.
- Describe the role of other health care providers and demonstrate how to work effectively with them.
- Outline the principles of and approaches to cost containment and economic evaluation.
- Describe the main functions of public health related to population health assessment, health surveillance, disease and injury prevention, health promotion and health protection.
- Demonstrate an understanding of ethical issues involved in resource allocation.
- Define the concepts of efficacy, effectiveness, efficiency, coverage and compliance and discuss their relationship to the overall effectiveness of a population health program.

## **Population health 05 – Outbreak management**

### **Rationale:**

Physicians are important participants in the control of outbreaks. They must be able to diagnose cases, recognize outbreaks, report these to public health authorities and work with authorities to limit the spread of the outbreak. A common example includes physicians working in nursing homes and being asked to assist in the control of an outbreak of influenza or diarrhea.

### **Terminal objectives:**

- Be knowledgeable about the characteristics that define an outbreak and how to recognize one when it occurs.
- Demonstrate essential skills involved in controlling an outbreak and its impact on the public, in collaboration with public health authorities as appropriate.

### **Enabling objectives:**

- Define an outbreak in terms of an excessive number of cases beyond that usually expected .
- Describe and understand the main steps in outbreak control and management.
- Demonstrate skills in effective outbreak management including infection control when the outbreak is due to an infectious agent.
- Demonstrate effectively communication skills with patients and the community as a whole.