Objectives of Training in Public Health and Preventive Medicine

2003

This document applies to those who begin training on or after July 1st, 2003.

(Please see also the “Policies and Procedures.”)

DEFINITION

Public Health and Preventive Medicine is that branch of medicine concerned with the health of populations. The Public Health and Preventive Medicine specialist uses population health knowledge and skills to play leading and collaborative roles in the maintenance and improvement of the health and well-being of the community. Through inter-disciplinary and inter-sectoral partnerships, the Public Health and Preventive Medicine specialist measures the health needs of populations and develops strategies for improving health and well-being, through health promotion, disease prevention and health protection.

The Public Health and Preventive Medicine specialist demonstrates skills in leadership; development of public policy; design, implementation and evaluation of health programs and applies them to a broad range of community health issues.

GOALS

The Public Health and Preventive Medicine specialist can engage in a number of careers, for example:

a. the practice of public health at a local, regional, national or international level;
b. the planning and administration of health services, whether in institutions or in government;
c. community-oriented clinical practice with an emphasis on health promotion and disease prevention;
d. the assessment and control of occupational and environmental health problems;
e. teaching and research.

Residents in Public Health and Preventive Medicine must develop a comprehensive knowledge of the sciences of Public Health and Preventive Medicine, and the skills to apply this knowledge to a broad range of community health issues in the socio-political and cultural contexts in which they occur. They must demonstrate the knowledge, skills and attitudes relating to socio-economic status, gender, culture and ethnicity of the populations with which they work. In addition, all residents must demonstrate an ability to incorporate these factors in research methodology, data presentation and analysis.
During training, all residents will be expected to acquire a substantial knowledge of and necessary skills in: concepts of health and illness and their determinants, methods in community health, health services organizations, trans-organization collaboration, community health programs, communication and advocacy. In addition, candidates are encouraged to develop a higher level of expertise in one of these fields, and to acquire knowledge in other academic subjects relevant to their own interests.

In particular, residents who successfully complete the program will be able to:

a. assess the health needs, concerns and capacities of a population;
b. investigate potential or existing health issues occurring in a population;
c. assess sociopolitical realities and be able to take and advocate appropriate action to improve health in the light of that assessment;
d. plan, implement and evaluate health programs and/or other strategies to deal with these needs, concerns and issues;
e. contribute to the formulation of public policy and assess its impact on health;
f. communicate, consult, collaborate and build partnerships with the public, physicians and other health professionals, volunteers, service provider agencies, elected and appointed officials and the media;
g. demonstrate ethical attitudes and behaviour and a critical approach to ethical issues in their work;
h. contribute to the body of knowledge of community health through scholarly activity and research; and
i. demonstrate leadership and management skills.

PUBLIC HEALTH AND PREVENTIVE MEDICINE COMPETENCIES

At the completion of training, the resident will have acquired the competencies included in, but not limited to, the lists that follow, and will function effectively as a:

Medical Expert/Clinical Decision-Maker

Specialists possess a defined body of knowledge and procedural skills which are used to collect and interpret data, make appropriate clinical decisions, and carry out diagnostic and therapeutic procedures within the boundaries of their discipline and expertise. Their practice is characterized by up-to-date, ethical, and cost-effective management and effective communication in partnership with individuals (patients and clients), other health professionals, community leaders and the community at large. The role of medical expert/clinical decision-maker is central to the function of specialist physicians, and draws on the competencies included in the roles of scholar, communicator, health advocate, manager, collaborator, and professional.

General Requirements:
• Demonstrate diagnostic and therapeutic skills for ethical and effective interventions at the individual, group, organization and population levels.
• Access and apply relevant information to the practice of Public Health and Preventive Medicine.
• Demonstrate effective consultation services with respect to assessment and interventions at the individual, group and population levels.
Specific Requirements:

1. **Diagnostic and Therapeutic Skills**

(a) **Assessment**

- Assess and describe the health of a population.
- Identify those conditions or population characteristics that lend themselves to surveillance and be able to select the most appropriate method.
- Use a variety of methods to collect information relevant to the clinical setting and situation at hand.
- Select and interpret relevant social, demographic and health indicators from a variety of data sources.
- Identify and interpret biological risk markers, e.g. age, sex, genetic makeup.
- Identify and demonstrate an understanding of social and economic environmental factors, such as immigration policies and distribution of wealth.
- Identify and demonstrate an understanding of physical environmental factors, including noise, pollutants and hazardous industrial processes, that are relevant to the given clinical context (individual, local, regional, global).
- Identify and interpret the impact of health behaviours of individuals, groups and populations, particularly with respect to nutrition, physical activity, use of tobacco and other substances, sexuality, risk taking, vaccination and participation in recommended screening programs.
- Identify and demonstrate an understanding of factors that influence the potential for change in a given context or population.
- Use computers or information technology in epidemiological investigations and data analysis.
- Interpret epidemiologic studies and assess their validity and applicability to a particular situation.
- Describe and apply guidelines for determination of causality (Koch, Hill)
- Understand the principles of infectious disease epidemiology and apply them in the investigation and management of infectious disease.
- Conduct a communicable disease outbreak or disease cluster investigation.
- Describe the major environmental health hazards and diseases, and the interaction of air, water and soil characteristics with them.
- Carry out a health risk assessment of an environmental hazard.
- Use quantitative and qualitative methods including (but not limited to) participant observation, key informant surveys, nominal group, focus group and Delphi process, to explain differences in health and health related behaviours.

(b) **Interventions**

- Manage a communicable disease outbreak.
- Know the natural history, epidemiology, risk factors and health burden of the major communicable and non-communicable (including injury) diseases of public health significance, and apply this knowledge in the development, implementation and evaluation of appropriate surveillance and control programs.
- Describe the main methods of dealing with common environmental hazards, including (but not limited to) water and sewage treatment, milk hygiene, and quality control of water, soil, air and food.
- Manage individually, or in a team, health risks from environmental or occupational exposures.
• Understand and apply the principles of harm reduction, stages of change, health protection (including legal, technical, economic and educational approaches) and health promotion, in order to influence health behaviours of individuals, groups and populations.
• Develop, implement and evaluate approaches to community health issues that incorporate health protection, disease prevention (primary, secondary and tertiary) or health promotion strategies as appropriate.
• Identify those conditions that are amenable to population-based screening, and calculate and interpret screening test characteristics.
• Understand, interpret and apply as appropriate, the methods and recommendations of relevant practice guideline processes.
• Contribute to the development of a community emergency preparedness plan, including measures to prevent and manage biological, chemical and radiological agents.

2. Information Access
• Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the internet and health, epidemiological and social sciences literature.

3. Effective Consultation
• When called upon for advice, clarify the nature of the request and establish (negotiating where required) the desired deliverables.
• Efficiently collect the information appropriate to the request.
• Formulate clear and realistic recommendations.
• Communicate the assessment and recommendations in a manner (oral and/or written) that is most suitable to the client and given circumstances.

Communicator

To provide humane, high-quality care, specialists establish effective relationships with patients and a variety of clients (groups and communities), other physicians, other health professionals, and service providers from non-health sectors. Communication skills are essential for the specialist, and are necessary for obtaining information from and conveying information to, the individuals and groups the specialist interacts with. Furthermore, these abilities are critical in eliciting clients’ beliefs, concerns and expectations about their health and illnesses, and for assessing key factors impacting their health.

General Requirements:
• Establish relationships with patients and families, groups and communities, and other physicians, health professionals and service providers, decision and policy makers and the media, appropriate to the setting.
• Obtain and synthesize relevant information.
• Listen effectively.
• Convey information clearly in formats appropriate to the recipient (patient or other individual, family, group, other service provider, community and media) that is relevant to the purpose at hand.
Specific Requirements:

- Interpret and present epidemiological data and risk information to affected individuals, the public, other professionals and the media using a variety of modalities.
- Develop and implement a communication plan about a public health issue, including a media component.
- Respond effectively to public and media enquiries about specific health issues.
- Effectively communicate with members of an interdisciplinary team for the purpose of information exchange, conflict resolution, and the provision and receipt of feedback.
- When called upon for advice, clarify the nature of the request and establish (negotiating where required) the desired deliverables.
- Efficiently collect the information appropriate to the request.
- Formulate clear and realistic recommendations.
- Communicate the assessment and recommendations in a manner (oral and/or written) that is most suitable to the client and given circumstances.

Collaborator

Specialists work in partnership with others who are appropriately involved in the care of individuals, groups or communities. It is therefore essential for specialists to be able to collaborate effectively with patients, clients, groups and communities, and a multidisciplinary team of expert health and other professionals for provision of optimal care, education and research.

General Requirements:

- Consult effectively with other physicians, other health care professionals and service providers from other sectors.
- Contribute effectively to interdisciplinary team activities.

Specific Requirements:

- Identify individuals, groups and other service providers who can contribute meaningfully to the definition and solution of an individual, group or community level public health issue, and education task or research question, including (but not limited to) social services agencies, mental health organizations, the not-for-profit sector, and volunteers.
- Employ a variety of means to engage and enable the participation of identified key stakeholders.
- Clearly articulate the goals and objectives of a given collaborative process.
- Identify and describe the role, expected contribution and limitations of all members of an interdisciplinary team assembled to address a health issue, educational task or research question, and work effectively within such a team.
- Describe the organization of community health and social services, including the not-for-profit sector, volunteers and other service agencies, in at least one province.

Manager

Specialists function as managers when they make everyday practice decisions involving resources, co-workers, tasks, policies, and their personal lives. They do this in the settings of individual patient care, practice organizations, and in the broader context of the health care system. Thus, specialists require the ability to prioritize and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite health care resources. As managers, specialists take on positions of leadership within the context of professional organizations and the Canadian health care system.
OBJECTIVES OF TRAINING IN PUBLIC HEALTH AND PREVENTIVE MEDICINE (2003)

General Requirements:
- Utilize resources effectively to balance professional demands, learning needs, and outside activities.
- Allocate finite health care resources wisely and ethically.
- Work effectively and efficiently in a health care organization.
- Utilize information technology to optimize patient care, life-long learning and other activities.

Specific Requirements:
- Use knowledge of the Canadian health system defining legislation, funding and organizations, to analyze community health issues.
- Use an economic analysis in the assessment of a health issue and proposed intervention options.
- Describe the public health legislation in at least one province and how it relates to other relevant legislation at the municipal, provincial and federal levels.
- Describe the organization of workplace health services.
- Design, implement, manage and evaluate a program.
- Design, implement and evaluate a change management process.
- Develop and implement a strategic plan.
- Participate in common human resource management functions, including (but not limited to) hiring, firing and performance appraisal of staff.
- Develop and manage a budget.
- Understand the impact of various leadership styles and apply them appropriately in a variety of community and organizational settings.
- Understand and use the techniques of conflict management, including negotiation and arbitration.
- Understand and use a variety of quality improvement techniques as appropriate to the organization and setting.

Health Advocate

Specialists recognize the importance of advocacy activities in responding to the challenges represented by those socio-cultural, environmental and biological factors that determine the health of individuals, groups, communities and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individuals, family, community and society. Health advocacy is appropriately expressed both by individuals and the collective responses of specialist physicians in influencing public health and policy.

General Requirements:
- Identify the important determinants of health affecting individuals and communities.
- Contribute effectively to improved health of individuals and communities.
- Recognize and respond to those issues where advocacy is appropriate.

Specific Requirements:
- Describe the distribution and determinants of health status of a specific population.
- Conduct a policy analysis.
- Describe mechanisms of policy development and methods of implementation, including legislation, regulation and incentives.
- Recognize situations where advocacy is required and define strategies to effect the desired outcome.
Scholar

Specialists engage in a lifelong pursuit of mastery of their domain of professional expertise. They recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the appraisal, collection, and understanding of healthcare knowledge, and facilitate their own personal education as well as that of their students, patients, community and others.

General Requirements:
- Develop, implement and monitor a personal continuing education strategy.
- Critically appraise sources of information relevant to the practice of Public Health and Preventive Medicine.
- Facilitate learning of patients and clients, residents, other health professionals and the community.
- Contribute to development of new knowledge.

Specific Requirements:
- Pose a research question and participate actively in the complete research process from grant preparation through to dissemination of findings.
- Describe the elements of quantitative, qualitative and action research, including study purpose, design, conduct, analysis, interpretation and reporting.
- Describe sampling methods as well as the estimation of appropriate sample sizes, including a consideration of type 1 and 2 errors.
- Select and apply descriptive and analytical methods appropriately.
- Recognize potential source of bias in research and describe methods to reduce the impact of such bias through design and/or analysis.
- Adapt educational and training strategies to the needs of the learner(s).
- Calculate and interpret measures of frequency (rate, ratio) and of risk (relative risk, attributable risk, odds ratio, etiologic fraction, preventive fraction).
- Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the Internet and health, epidemiological and social sciences literature.

Professional

Specialists have a unique societal role as professionals with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well-being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

General Requirements:
- Deliver highest quality care with integrity, honesty and compassion.
- Exhibit appropriate personal and interpersonal professional behaviours.
- Practise medicine ethically consistent with obligations of a physician.

Specific Requirements:
- Continually evaluate one’s abilities, knowledge and skills, and know one’s professional limitations, seeking advice and assistance where appropriate.
- Identify ethical issues arising in the course of Public Health and Preventive Medicine practice, such as consent, confidentiality, privacy, resource allocation, conflict of interest, public safety and individual choice, and apply appropriate strategies to address them.
- Recognize, analyze and know how to deal with unprofessional behaviours in clinical practice, taking into account local and provincial regulations.
- Adopt specific strategies to heighten personal and professional awareness and explore
and resolve interpersonal difficulties in professional relationships.