

A Set of Minimum Competencies for Medical Officers of Health in Canada

Final Report - March 2009

MOH Competencies Working Group

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Several Medical Officers of Health (MOH) from across the country provided copies of their position descriptions, which were invaluable for the analysis of common MOH roles. In addition, many MOHs provided feedback on earlier versions of the competency sets.

Members of the Ad Hoc Working Group who oversaw the development of the draft competencies included:

Hilary Robinson – Public Health Agency of Canada, Chair

Brenda Cholin – North Battleford

Andre Dontigney – Trois Rivieres

Vera Etches - Sudbury

Margaret Fast - Winnipeg

Bart Harvey - Toronto

Lynn McIntyre - Calgary

Cristin Muecke - Fredericton (until Summer 2008)

Chris Sikora - Edmonton

Brent Moloughney – project consultant.

EXECUTIVE SUMMARY

Competencies are a basic building block to support a comprehensive approach to public health workforce development. Following the development of the public health core competencies, seven ongoing projects are examining the required competencies for specific discipline groups, with one of these being the public health physician role of Medical Officer of Health (MOH)ⁱ. The specialty training in Community Medicine is considered the gold standard for MOHs, however, this training also prepares physicians for roles beyond that of MOH; and the MOH role itself needs to be distinguished on the basis of its competencies as one mechanism to address the number of challenges associated with MOH positions in Canada. The purpose of this report is to describe the minimum set of competencies for MOHs based on common roles and responsibilities that can be adapted and used for MOH positions across the country. Potential audiences include MOH employers at regional and provincial and territorial (PT) levels, medical licensing authorities, training programs, continuing professional education programs, as well as current and future MOHs.

To develop the competency set, a compilation of MOH roles and responsibilities was developed based on a review of PT public health legislation, as well as selected examples of MOH position descriptions from across the country. Competency statements to align with the identified roles and responsibilities were sought in a stepwise fashion from the set of Canadian public health core competencies, followed by Master of Public Health (MPH) competencies from the US and Australia, and where necessary, the use of specialist competency sets from the US and UK. The Royal College's training requirements for Community Medicine were reserved for a later validation step.

Medical Officer of Health roles and minimum competencies were clustered into domains with accompanying narratives. Feedback from the field on preliminary drafts of this material was obtained in presentations to MOH groups and through a web-based survey that was promoted through PT Chief MOHs. This final set of minimum MOH competencies is comprised of 51 competency statements clustered into 8 domains. However, the competency set is a single package because an MOH would be expected to draw upon multiple competencies from a variety of domains to fulfill typical tasks. The competency set includes the following domains:

ⁱ For this paper, an MOH is a public health physician employed by the governmental public health system and whose position is recognized under legislation. Associate/Deputy MOH positions also fall into this definition. Some jurisdictions utilize "Medical Officer of Health", while others use "Medical Health Officer (MHO)". For consistency, "MOH" is utilized throughout this paper. In Quebec, the MOH equivalent is the Regional Public Health Director (Director de la Santé Publique).

- **Foundational Clinical Competencies:** MOHs need to draw upon their clinical knowledge, skills and experience to assess issues and communicate decisions affecting the health of the public.
- **Monitoring and Assessing the Health of the Public:** MOHs play a central role in assessing the health of the public to inform priority setting, program planning, delivery and evaluation.
- **Public Health Consultant:** MOHs must exhibit sound evidence-based decision-making and analytical abilities based on the health needs of the public as a whole, and be able to make decisions in critical situations in the absence of complete information.
- **Investigating and Mitigating Immediate Risks to Human Health:** MOHs are responsible for assessing potential risks to the health of the public and taking whatever possible steps are necessary to reduce or eliminate that risk.
- **Policy, Planning and Program Development:** MOHs develop, recommend and implement public policies in support of improved health, including contributing to the planning and delivery of public health programs and services.
- **Communication, Collaboration and Advocacy for the Public's Health:** MOHs are a primary source of information on public health matters to a range of audiences and utilize their knowledge of communities to develop and shape strategies with partners to mobilize action to identify inequities in health and build healthy public policy to reduce them.
- **Leadership and Management:** MOHs champion action to improve and protect the health of the public in inter-sectoral and organizational settings. Internally, the MOH promotes a shared vision and purpose to drive action and is able to link today's work with long range plans.
- **Professional Practice:** MOHs fulfill a number of professional roles including educator, the development and translation of public health knowledge, the maintenance and improvement of their own expertise in public health practice, and ethical conduct.

The ad hoc working group struck for this project has received and considered feedback from MOHs and selected professional organizations as it has proceeded, through multiple iterations, to develop the proposed set of minimum MOH competencies. In general, the feedback has indicated that the role descriptions and competency statements accurately capture the expectations for MOHs. Most of the concerns heard during the consultations relate to the potential consequences of the competency set including the implications for training paths for MOHs and how potential audiences might use the competencies. The main body of this report therefore provides considerable attention to these and other issues.

It is anticipated that the competency set will be useful for a range of potential audiences. Recognizing differences in needs and contexts, it is expected that this competency set will be tailored to suit a particular intended use. As a set of *minimum* competencies, circumstances in the local context may require a jurisdiction to set greater expectations for the breadth and depth of particular competencies.

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A Set of Minimum Competencies for Medical Officers of Health in Canada

INTRODUCTION

Recent reviews of Canada’s public health systems have stressed the importance of strengthening the public health workforce.^{1,2} The knowledge, skills, and attitudes of individuals, collectively referred to as “competencies”, are considered a basic building block to support a comprehensive approach to workforce development.³ With the support of the Public Health Agency of Canada, core competencies for the public health workforce have now been developed.⁴ Multiple ongoing projects are examining the required competencies for specific discipline groups such as public health nurses and community nutritionists. At the time of initial consultations with the National Specialty Society for Community Medicine (NSSCM) regarding the public health workforce core competencies, it was suggested that there was a need to identify the competencies required for a key physician role in public health, namely that of a Medical Officer of Health (MOH)ⁱⁱ. A focus on MOH competencies was further supported by other groups and key informants.⁵

Medical Officers of Health play critical roles in Canada’s public health systems. While specialty training in Community Medicine is considered the gold standard for MOH preparation, the specialty prepares physicians for broader roles than a MOH and the role itself needs to be distinguished on the basis of its competencies as one mechanism to address the challenges associated with MOH positions in this country. These include, but are not limited to:

- Large number of chronic vacancies with inequitable distribution of existing MOHs
- Positions being filled by physicians of widely varying backgrounds (from certified specialists, to Master’s prepared, to no formal training)
- Limited uptake and capacity of Royal College specialty training programs
- Solo practitioner models in many regions of the country
- Ill-defined career paths and limited opportunities for professional development of those in MOH roles
- Challenges in assessing the competencies of MOH candidates who have received part or their entire medical and/or public health training outside Canada.

ⁱⁱSome jurisdictions utilize “Medical Officer of Health”, while others use “Medical Health Officer (MHO)”. For consistency, “MOH” is utilized throughout this paper. In Quebec, the MOH equivalent is the Regional Public Health Director (Director de la Santé Publique).

Project Purpose

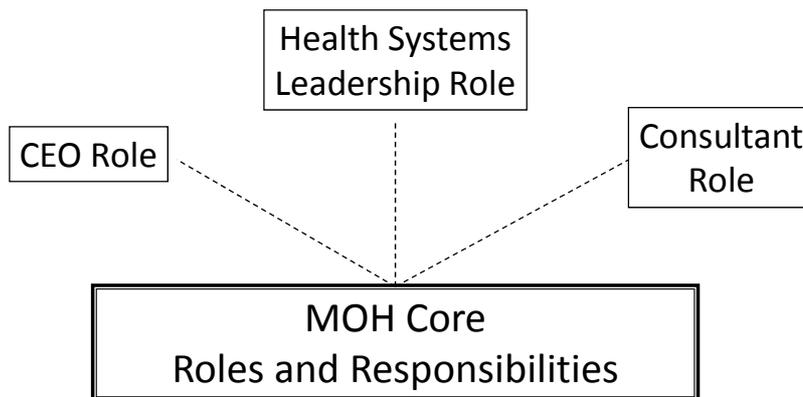
The purpose of this report is to describe a minimum set of competencies for MOHs that can be adapted and used for MOH positions across the country.

Scope – Core and Augmented Roles

For the purposes of this report, an MOH is a public health physician employed by the governmental public health system and whose position is recognized under legislation. As such, this set of competencies also applies to Associate MOH positions. Structural differences of public health systems across the 13 provincial/territorial (P/T) jurisdictions have implications for expected roles of MOHs. While there appears to be a central core set of roles and responsibilities for MOHs, thereby facilitating the identification of a set of minimum competencies, depending on the jurisdiction, there may be additional expectations for MOHs. These include fulfilling a chief executive officer (CEO)-type role, actively contributing to broader health system analysis and planning, and functioning as an expert consultant for a specific program/content area (see Figure 1).

In the provinces of Quebec and Ontario, MOHs are defined in legislation to have a CEO-type responsibility for the regional public health division/unit, and this is also common in larger health authorities across the country. In provinces with regionalized health systems, the MOH may also be expected to actively contribute to the analysis of and decision-making for issues for the entire health system. This is the norm in Quebec and typical in larger regional health authorities in other parts of the country. In larger public health departments/units that also include one or more Associate MOHs (AMOH), individual AMOHs will often focus in on a specific area of public health practice and function as an expert consultant in that area. In these jurisdictions, these augmented roles are fully integrated into the MOHs' set of responsibilities (i.e. viewed as "core"), typically requiring a considerable proportion of their time, and are a significant consideration for MOH recruitment and their subsequent performance assessment. The required competencies for performing augmented roles are not fully reflected in the minimum set of competencies described in this report and are being left for a later phase of work.

Figure 1: MOH Competencies - Core and Augmented Roles



Note: these roles are not necessarily mutually exclusive – various combinations occur depending on setting

This report will focus on identifying the minimum set of competencies required for the common roles and responsibilities of MOHs across the country. Although not the specific focus of this report, the MOH competencies will also be relevant at least to some degree, for public health physicians working at P/T and federal system levels, as well as those fulfilling other roles at local/regional levels that are not legislatively mandated.

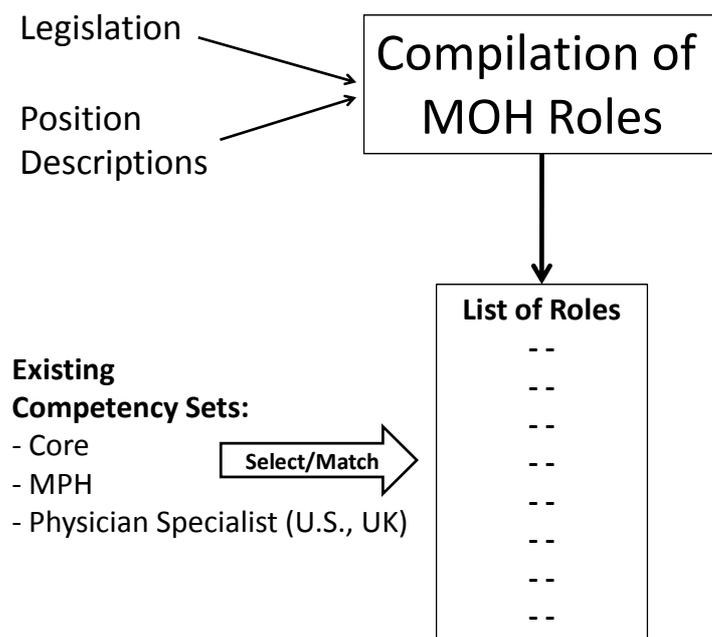
METHODS

In developing a set of MOH competencies, there were two approaches that could have been followed. One was to start with an existing set of specialist competencies such as those for Community Medicine specialists and attempt to adapt or modify these to reflect a focus on MOH practice. The challenge with this approach was that without a mechanism to inform decision-making, it risked either becoming an arbitrary watering-down exercise or a similarly arbitrary one that merely reinforced specialty training as the standard for all MOHs. Neither of these outcomes was desirable. Instead, the expected roles and responsibilities for MOHs were pursued as a basis for identifying the competencies required to fulfill them. In other words, if an MOH is expected to have role “a”, then s/he needs to have the knowledge and skills “x, y, and z”.

Figure 2 illustrates the process used. In order to establish a compilation of expected MOH roles and responsibilities, two sources of information were utilized. First, the public health legislation of P/Ts was reviewed and then supplemented by a review of selected examples of MOH position descriptions from across the country. Competency statements to align with

the identified roles and responsibilities were sought in a stepwise fashion from the set of Canadian public health core competencies,⁴ followed by Master of Public Health (MPH) competencies from the US⁶ and Australia,⁷ and then where necessary, the use of specialist competency sets from the US^{8,9} and UK.¹⁰ The Royal College’s training requirements for Community Medicine¹¹ were reserved for a later validation step.

Figure 2: Process Used to Identify MOH Roles and Competencies



Note: Royal College training requirements for Community Medicine were not used to develop the MOH competencies and were retained as a later validation step.

Information was also sought on how other medical fields address different levels of preparation between specialist and non-specialist prepared practitioners including anaesthesia, emergency medicine, and obstetrics/gynecology.

PUBLIC HEALTH PHYSICIANS AND THE ROLES OF MEDICAL OFFICERS OF HEALTH

The Role of Physicians in Public Health

Public health physicians have been defined in the US as physicians “whose training, practice and world view are based in large part on a population focus rather than individual practice, that is, on assuring the availability of essential public health services to a population.”¹² This

definition seems appropriate for the Canadian context. However, there is uncertainty at times regarding the role of public health trained physicians within public health systems. Such systems employ many health professionals from a variety of health disciplines who possess well-developed public health skills. Given the considerable pressures on physician human resources, and a perceived lack of attractiveness among physicians for a career in public health, it is therefore reasonable to ask what are the particular roles and contributions made by physicians to public health systems? As a response, the following points have been made in a recent US National Academy of Sciences report:

- Physicians' training provides them with a deep understanding of molecular biology, human anatomy, pathophysiology, pharmacology, and other basic sciences that are essential to understanding the interaction between people and their environment (e.g. interactions among diet, physical activity and cardiovascular disease)
- Physicians' training encourages the gathering of data from a myriad of sources (history taking, examination, and laboratory results)
- Physicians' training teaches them to formulate the nature of the health problem, craft solutions and monitor impact with reassessment and mid-course corrections to solve problems
- Physicians often work in inter-disciplinary teams providing basic leadership skills for team building
- Physicians must often make decisions, despite unsettling and irresolvable uncertainties – there is a demand for action in the presence of insufficient or conflicting data when there can be life or death implications.
- Physicians are often a trusted and effective voice to address health problems occurring in the community. The public finds them to be credible experts with the most comprehensive backgrounds in health and disease prevention.
- A physician's leadership role is vital in times of emergency when there is an urgent need to explain risks, contend with fear, and galvanize groups to contend with the emergency.
- A physician can more easily leverage their relationship with people within the medical community and gain cooperation and commitment from them.¹²

It is this combination of a deep understanding of human health and illness, with advanced problem analysis and solving abilities, blended with public health knowledge and skills, that enables public health physicians to integrate multiple sources of information and make and be accountable for the necessary decisions to promote and protect the public.

While the focus of this report is on physicians with mandated system roles, the National Academy of Sciences' report describes three levels of engagement that physicians can have with the public health system:

1. All physicians contribute, through their routine clinical activities, to the achievement of public health goals. For example, diagnosing, treating and reporting infectious diseases and providing smoking cessation counselling are activities that contribute to broader public health goals at the population level.
2. Some physicians perform select services within the context of the public health system. For example, a family physician providing clinical services in a public health sexual health clinic.
3. Physicians with careers in public health.¹² Included within this group are MOHs.

These three groupings of physician involvement with public health are not inter-changeable. The practice of public health medicine is significantly different from clinical medicine such that there are considerable requirements for public health specific competencies for group #3 that are not required for the other two groups. In other words, having served a community as a primary care physician (i.e., role #1 or #2), even for a period of many years, is not in itself adequate preparation to assume the responsibility for being a community's MOH. The following section pursues the expected roles of MOHs in more detail.

Duties and Training Expectations for MOHs

Legislative Requirements for MOHs

Because MOHs are public health physician positions identified in legislation, a review of existing Canadian P/T public health legislation was conducted with the following purpose:

- To identify the identified roles and duties expected of MOHs
- To identify training requirements/expectations as outlined in public health legislation or regulation.

Public Health-related Acts and associated regulations were primarily identified through the website of the Canadian Legal Information Institute.ⁱⁱⁱ In seeking legislatively mandated duties and training requirements, specific attention was placed on expectations for MOHs at a sub-provincial level (i.e., Regional Health Authority or Public Health Unit). While public health legislation typically identifies duties and training for P/T Chief MOHs (CMOH), these are more senior positions than typical MOH positions, exist in a unique organizational setting, have unique roles and responsibilities, and therefore are not as useful for informing minimum competencies for all MOHs. A recognized consequence of this approach is that it excludes the position descriptions of MOHs from smaller jurisdictions such as Prince Edward Island and the three Territories, which blend the roles of a CMOH and MOH.

ⁱⁱⁱ The Canadian Legal Information Institute (CanLII) is a not-for-profit organization created by the Federation of Law Societies of Canada. In other words, the bar associations of Canada's provinces and territories and the *Chambre des notaires du Québec*. (<http://www.canlii.org/en/index.html>).

The review of existing legislation, conducted in mid-2008, indicates the following:

- The predominant focus in legislation is on health protection responsibilities related to the reporting of communicable diseases and health hazards and their investigation and mitigation.
- Expectations for other areas of public health practice such as assessing health of the public, surveillance, reporting on the health of the public, and preventing diseases and conditions beyond communicable diseases, are made explicit only in Quebec and Ontario. These are also the only two provinces that establish formal expectations for MOHs as the directors of their regional public health organizations (i.e., the CEO augmented role).
- Training requirements for MOHs are explicit in four of the nine provinces:
 - In three provinces, options are outlined for Royal College certification or Masters or Diploma or equivalent training.
 - BC stipulates that Royal College certification is required, although it is also acceptable if a physician “has sufficient training, knowledge, skills and experience to exercise the powers and perform the duties of a medical health officer”
 - In an additional province, it states that the physician must be trained in “community health care”.
- A description of desired skills, abilities and experiences is addressed by two provinces. The most detailed is in a standard from B.C.. Ontario identifies four required skill areas.

Overall, existing legislation in this country provides variable and limited guidance regarding expectations for the duties and training of MOHs. Additional information on the duties identified in each province is provided in Appendix A.

MOH Position Descriptions

Examples of MOH position descriptions were retrieved from multiple provincial jurisdictions. Overall, these descriptions provided a much more detailed and comprehensive representation of MOH roles and responsibilities than did the Public Health legislative review. Despite differences in provincial legislation, health system structures, and formatting of position descriptions, there are clear commonalities in the expectations for MOHs across the country. The following roles and responsibilities appeared in most position descriptions:

- Monitoring, assessing and reporting on the health of the public
- Expert consultant
- Advocacy for the public’s health
- Legislated requirements for investigating and mitigating health hazards
- Communicable disease prevention and control

- Non-communicable disease prevention and control
- Leader in public health emergency preparedness
- Environmental health monitoring and control
- Planning and program development
- Participating in research into the health of the public
- Educator
- Manager/leader.

Using this list of themes, individual role and responsibility statements from the various position descriptions were grouped and duplications eliminated. To capture the nature of each grouping or domain^{iv}, a short descriptive narrative was developed. Following feedback from a preliminary set of consultations, the number of domains was collapsed.

DEVELOPMENT OF MINIMUM COMPETENCIES FOR MOHS

Identification of Competency Statements

With a clearer understanding of MOH roles and responsibilities, the next step was to begin to identify the knowledge, skills and attitudes (i.e., competencies) required to fulfill these roles. While one could attempt to craft all of the competencies from scratch, utilizing existing competency sets offered a number of advantages. This was conducted in an incremental manner. Since the Canadian core competencies reflect the common thread of knowledge and skills expected of all public health practitioners including MOHs, this competency set was the initial starting point. Where gaps existed, relevant competencies were sought from MPH competency sets.^{6,7} In general, the Australian set was much more useful for this exercise because of its inter-disciplinary approach to competencies. For any remaining gaps, specialty competency sets from the UK,^{10,13} US,^{8,9} and Australia¹⁴ were examined for relevant statements.

Common Formatting of Domains

A common approach to presenting the roles and competency statements was utilized:

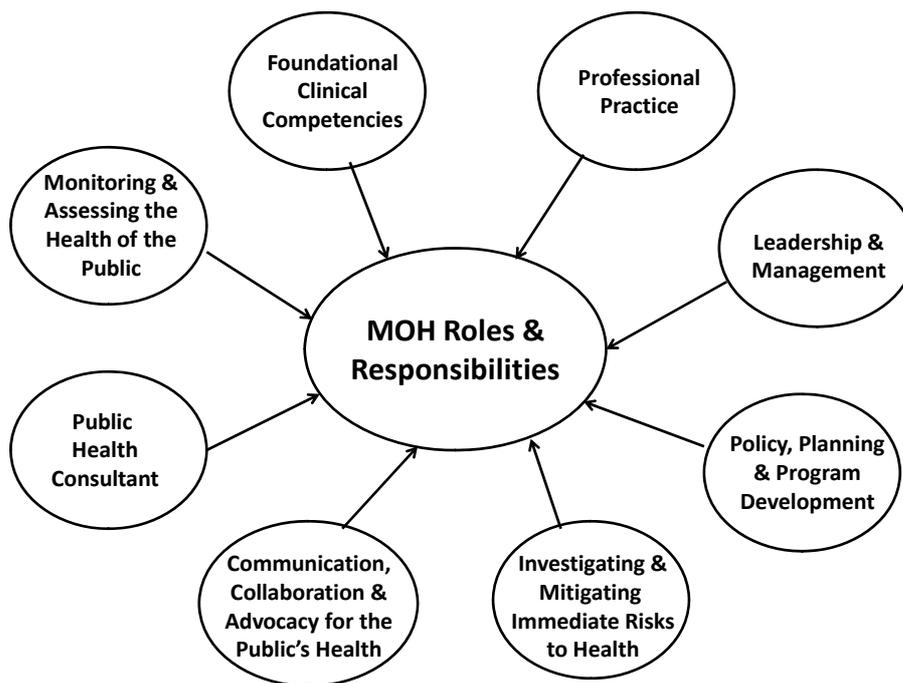
- Domain title
- Domain narrative description
- Listing of typical MOH roles and responsibilities in the domain
- MOH competencies required to fulfill this role.

^{iv} Domain: a sphere of activity, concern or function.

Competency Set Domains

The preliminary set of competencies that was distributed to the field for consultation included a total of 52 competencies grouped in 12 domains. Following feedback, the existing domains were collapsed and an additional domain addressing foundational clinical competencies was added resulting in a total of 8 domains containing 51 competency statements. Figure 3 illustrates the 8 domains comprising the minimum MOH competency set.

Figure 3: Minimum MOH Competency Domains



While competency statements are clustered into domains for ease of reviewing and applying them, the reality is that any one competency statement or domain does not exist in isolation of the rest of the competency set. Most tasks are relatively complex and an MOH would be expected to draw upon multiple competencies from a variety of domains to fulfill them. For example, the *Policy, Planning and Program Development* domain focuses, as one would expect, on policy analysis and program planning.

In practice, policy development or program development would depend not only on these competencies, but also utilize competencies from other domains that might include:

- Functions, structures, and roles of the various health system components (Domain 1)
- Assessing and prioritizing population needs (Domain 2)
- Identifying and applying relevant evidence (Domain 3)

- Utilizing appropriate communication and social marketing techniques, advocacy, and collaboration (Domain 6)
- Strategic and team leadership (Domain 7)
- Program/project management (Domain 7)
- Participation in applied research to generate new knowledge to inform practice (Domain 8).

As illustrated in Figure 3, the MOH will need draw upon competencies from all of the domains in order to fulfill his/her expected roles.

Feedback from Consultations Conducted To-Date

Following discussion with the Council of CMOHs, version 3 of the competencies was distributed to all MOHs in the country through the P/T CMOHs. The materials were posted electronically on the NSSCM website and an on-line survey instrument was provided to capture feedback. Some organizations did not support the “survey monkey” instrument and a Word version of the survey was provided. A total of 22 responses were received on-line. In addition, presentations were made to the NSSCM Council, the Royal College of Physicians and Surgeons of Canada’s Specialty Committee for Community Medicine, and the Urban Public Health Network, as well as invited presentations to three provincial MOH groups (Ontario, New Brunswick, and Alberta).

Overall, the majority of respondents have indicated that the competency set is an accurate reflection of the expectations for MOH practice. However, a majority of respondents to-date, and the focus of interest at consultation sessions, has been on the potential implications of the competency set. Issues regarding the implications are addressed in the discussion section of this report.

At this time, the working group is aware of two groups who have already begun using the competency set. A public health unit in Ontario has heavily utilized them to re-craft the position description for their MOH and the College of Physicians and Surgeons of Ontario (CPSO) is piloting their use to assess physicians who are considering a change in their scope of medical practice to public health.

SET OF MOH CORE ROLES AND MINIMUM COMPETENCIES

1. **Foundational Clinical Competencies**

The primary focus of an MOH is on the health of populations. Their deep understanding of human health and illness, combined with advanced problem analysis and solving ability, provide an important foundation upon which to blend public health knowledge and skills. While not typically involved in the direct care of patients, MOHs need to draw upon their clinical knowledge, skills and experience to assess issues and make and communicate decisions affecting the health of the public.

A MOH Should Have Working Knowledge of the Following Areas in Order to Fulfil Public Health Responsibilities:

- 1.1. Functions, structures, and roles of the various health system components.
- 1.2. Molecular biology, human anatomy, pathophysiology, pharmacology, and other basic sciences essential to understanding the interaction between people and their environment.
- 1.3. The recognition, investigation and management of infectious diseases of public health importance.
- 1.4. Health care routine and transmission-based infection control precautions.
- 1.5. The provision of immunizations and the management of associated adverse events.
- 1.6. The provision of effective, clinical preventive interventions, including primary and secondary prevention, in the areas of infectious and chronic diseases, injuries, mental health, and early childhood development.
- 1.7. The provision of healthy sexuality services.
- 1.8. The recognition, investigation and initial management of conditions of environmental and occupational origin.

2. Monitoring and Assessing the Health of the Public

MOHs play a central role in assessing the health of the public. This entails understanding the health of populations, the factors that underlie good health and those that create health risks. Typical outputs of such analysis are community health profiles and health status reports that inform priority setting, program planning, delivery and evaluation. Population health assessment is dependent on the availability of data. MOHs are expected to be able to assess the comprehensiveness and quality of surveillance and other data systems and identify areas for improvement.

Typical MOH roles and responsibilities in this domain include:

- Ensure ongoing surveillance of the health status of the population and of health determinants in order to:
 - obtain an overall picture of the health status of the population
 - monitor trends and temporal and spatial variations
 - detect emerging problems
 - identify major problems
 - anticipate the future health status of the population
 - monitor the development within the population of certain specific health problems and of their determinants.
- Assess and make recommendations for improvement of data quality and comprehensiveness.

To fulfil this role, a Medical Officer of Health should be able to...

- 2.1. Assess and describe systematically a population's health status, the determinants of significant health problems and their distributions using quantitative and qualitative methods.
- 2.2. Identify and integrate information on health status, existing services and evidence of effective interventions to identify population health needs.
- 2.3. Establish and apply criteria to prioritize population health needs.
- 2.4. Evaluate the effectiveness of surveillance systems to monitor the health of the public.
- 2.5. Understand the use, benefits, and limitations of information technology systems in monitoring and assessing the health of the public.

2.6. Use information and communication technology for word processing, reference retrieval, statistical analysis, graphic display, database management, and communication.

3. Public Health Consultant

MOHs must exhibit sound evidence-based decision-making and analytical abilities. They should be particularly adept at gathering, appraising, and integrating diverse sources of information to draw meaningful and relevant conclusions in order to apply these to health programs and services. The MOH must be able to make decisions in critical situations in the absence of complete information. Reflecting a population health perspective, the MOH prioritizes decisions based on the health needs of the public as a whole. The MOH consults with, and advises, other practitioners, health care agencies, community groups and government agencies with respect to current appropriate measures directed toward disease prevention, health protection and health promotion.

Typical MOH roles and responsibilities in this domain include:

- To be a source of expertise across the range of public health issues including: communicable disease, environmental health, health promotion, disease prevention, health protection, chronic diseases, injuries, health care infection prevention and control, mental health, maternal and child health, and occupational health and safety.
- Advises the Board^v and decision-makers about health concerns in the population, makes recommendations for strategies to address priority health issues, and contributes to health planning for the region^{vi}.
- Serves as the region's medical authority in public health, providing evidence-informed advice to:
 - Public health staff
 - Health care professionals, particularly physicians
 - Municipal councils, school boards, and the community and community groups
- Ensures that current relevant evidence is applied in the development and implementation of public health policies and programs.

^v Board: a governance body for public health. May be a dedicated public health board (e.g. some parts of Ontario) or the board for a set of health services that includes public health (e.g. regional health authorities).

^{vi} Region: a defined geographic area for which a public health organization is responsible.

To fulfil this role, a Medical Officer of Health should be able to...

- 3.1. Apply the following concepts to public health practice: the health status of populations, inequities in health, the determinants of health and illness, strategies for health promotion, disease and injury prevention and health protection, as well as the factors that influence the use of health services.
- 3.2. When called upon for advice, clarify the nature of the request and collect, synthesize and present relevant information and evidence.
- 3.3. Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems.
- 3.4. Recognize the social, cultural and ethical issues including local contextual factors related to a public health issue.
- 3.5. Assess the relative merits (e.g., considering suitability to target group, resource requirements, etc.) of potential intervention strategies (e.g., education, advocacy, policy, regulation, collaboration, clinical services, etc.) to comprehensively address a public health issue.
- 3.6. Make decisions in a timely manner in complex situations and environments and be accountable for these decisions.

4. Investigating and Mitigating Immediate Risks to Human Health

The MOH is responsible for assessing potential risks to the health of the public and taking whatever possible steps are necessary to reduce or eliminate that risk. MOHs are expected to provide leadership for the preparation and response to public health emergencies.

Typical MOH roles and responsibilities in this domain include:

- Ensures that community public health hazards are adequately anticipated and prevented where possible and/or are promptly and adequately investigated and controlled should they develop.
- Uphold, interpret and enforce all pertinent public health legislation including its regulations and protocols.
- Ensures the effective prevention and control of communicable diseases through the maintenance of comprehensive surveillance, investigation, management, partner notification and follow-up programs:
 - Works with and provides direction to disease control staff for the investigation and control of communicable diseases
 - Advises and consults with physicians, other health care providers, organizations, and the public on communicable disease control and works to develop approaches to manage communicable disease outbreaks.
 - Leads outbreak and cluster investigation and management
 - Draws upon diverse disciplines (e.g., toxicologists, epidemiologists, social scientists, disease management experts) as required to investigate and control hazards.
- Environmental health monitoring and control:
 - Works with and provide direction to public health inspectors
 - Participates in the development of policies and procedures for Environmental Health
 - Works with other stakeholders to assess environmental health concerns and to intervene as necessary
 - Leads environmental hazard investigations as required.
- Oversees the development, updating, testing, and implementation of the regional public health emergency response plan.

To fulfil this role, a Medical Officer of Health should be able to...

- 4.1. Demonstrate a thorough understanding of a MOH's legislative responsibilities and authorities to promote and protect the health of the public.
- 4.2. Lead the development of an organizational plan to prepare for, respond to, and recover from a public health emergency.
- 4.3. Lead an investigation to assess and control situations of potential risk to human health.
- 4.4. Communicate and coordinate with other professionals and organizations to gather information and coordinate action to investigate and mitigate risks.
- 4.5. Determine the best course of action, including exercising legislated authority as required, to address situations of potential risk to human health and take responsibility for recommended actions.
- 4.6. Provide direction to public health staff in the investigation and control of potential risks to human health.

5. Policy, Planning and Program Development

An MOH develops, recommends and implements public policies in support of improved health. MOH involvement in policy development can occur at multiple levels including healthy public policy as applied to multiple government departments, health system policy for health-related organizations, as well as decision-making regarding public health programs and services. In addition, the MOH contributes to the planning and implementation of public health programs and services.

Typical MOH roles and responsibilities in this domain include:

- Developing, recommending and implementing public policies in support of improved health.
- Advises on and/or plans, develops and evaluates appropriate programs or services to respond to community needs.
- Advises on and/or plans, develops and evaluates appropriate programs or services that provide a continuum of care to the population.

To fulfil this role, a Medical Officer of Health should be able to...

- 5.1. Systematically assess the feasibility and social, economic, environmental, legal and ethical implications of policy options based on analysis of diverse forms of evidence.
- 5.2. Apply analytic tools for comparing options and weighing benefits vs. cost in determining a recommended course of action (e.g., prioritization matrix).
- 5.3. Develop and implement an action plan with clear and measurable objectives and a sound and sufficient budget.
- 5.4. Design program evaluation plans to assess a public health program and interpret findings to make improvements.

6. Communication, Collaboration and Advocacy for the Public's Health

MOHs are a primary source of information on public health matters to health care professionals and institutions, the education sector, community health and social service agencies and planning bodies, municipal authorities and the general public. MOHs need to be credible and effective spokespersons pro-actively, as well as in response to a crisis. They require highly developed verbal and written skills to present complex information in a clear, concise manner suitable to the target audience.

The MOH utilizes his/her knowledge of community stakeholders, political processes and community resources skills to develop and shape strategies with partners and to function as a champion intra-organizationally and inter-sectorally to mobilize action to identify inequities in health and build healthy public policy to reduce them.

Typical MOH roles and responsibilities in this domain include:

- Acts as principal information source to the community on public health issues, programs and policies including:
 - Utilizing the media proactively for public communication with regards to health risks, threats and their management
 - Preparing reports on the health of the region, examining inequalities and inequities on health and health determinants, and monitoring changes in health status – the dissemination aspect of monitoring and assessing health of the public.
- Engage with and effectively influence others in a complex multi-agency environment to improve and protect the population's health.
 - Typical partners include:
 - The health care system
 - Other health related organizations, societies, committees, associations, etc.
 - Government departments/organizations, particularly at the local/regional level: municipal councils, school boards, and organizations responsible for mental health, social services, alcohol and drug programs, housing, natural resources and environmental protection, etc.

- Aboriginal leaders and community members
- Academic partners and institutions
- Community groups, non-governmental organizations, and businesses.
- Works collaboratively within the public health system:
 - Other regional public health organizations
 - The provincial/territorial level of the system
 - Sits on provincial/territorial or occasionally on federal/provincial/territorial committees as appropriate.
- Advocates for improvement through:
 - Influencing political/partnership decision-making through the application and use of evidence
 - Speaking on behalf of marginalized members of the community and those at risk
 - Promoting health and related systems that are responsive to the needs of the population
 - Promoting supportive environments and facilities that make healthier choices easier choices for people
 - Promoting public health interventions of proven efficacy and effectiveness at the provincial and national system levels.
 - Promoting healthy public policy in non-health sectors (e.g. environment, education, recreation, housing, etc.).

To fulfil this role, a Medical Officer of Health should be able to...

- 6.1. Mobilize individuals and communities by using appropriate media, community resources and social marketing techniques.
- 6.2. Provide health status, demographic, statistical, programmatic and scientific information tailored to a wide range of audiences (including political/executive audiences and the general public) and that is likely to influence their actions.
- 6.3. Understand the roles that different organisations, agencies, individuals and professionals play and the influence they may have on health and health inequalities.
- 6.4. Use skills such as team building, negotiation, conflict management and group facilitation to build effective partnerships with key institutions and players.
- 6.5. Understand how to influence and shape the political agenda to improve health and reduce inequalities.
- 6.6. Prepare an advocacy strategy to influence public policy based on evidence of effective interventions to address the problem and on evidence for effective public health advocacy.

7. **Leadership & Management**

An MOH plays a critical inter-sectoral and organizational leadership role. Through collaboration and advocacy for healthy public policies, the MOH champions action to improve and protect the health of the public. Organizationally, the MOH promotes a shared vision and purpose to drive action. The MOH is also able to link today's work with long range plans to optimize the functioning of public health teams and individual practitioners. While MOHs do not consistently fulfil executive leadership roles of public health organizations across the country, an MOH participates in the direction and management of public health programs and activities, including resource allocation, and budget planning and control.

Typical MOH roles and responsibilities in this domain include:

- Functioning as a champion for inter-sectoral action to improve and protect the health of the public.
- Promote a shared vision and purpose to drive action.
- Provide leadership in developing a public health plan for the region.
- Foster organizational improvement and system functioning:
 - Working with public health teams and individuals to optimize performance
 - Identification of public health trends and issues, contributing to the determination of public health priorities and establishes standards for public health program initiatives.
 - Works with senior management to gain understanding and approval of public health priorities - contributes to resource allocation decision making; responsible for some budgeted expenditures
 - Collaborates with provincial health officials on issues that go beyond regional boundaries.
- Be accountable for one's decisions.
- Fair and effective management of staff – participate in human resource practices.

To fulfil this role, a Medical Officer of Health should be able to...

- 7.1. Evaluate the politically challenging environment in which one works and operate effectively within it.
- 7.2. Build and sustain strategic alliances and partnerships, especially within politically challenging environments.
- 7.3. Identify a strategic direction and vision for health and wellbeing and communicate it consistently to a wide range of people and agencies.
- 7.4. Contribute effectively to organizational change and implementation of policy decisions.
- 7.5. Lead effectively in uncertain or ambiguous situations.
- 7.6. Apply effective leadership styles appropriate to particular situations and circumstances.
- 7.7. Set priorities and maximize outcomes based on available resources.
- 7.8. Understand human resources principles and practices.

8. Professional Practice

As a regulated health professional, an MOH is committed to ethical conduct, the maintenance and improvement of their expertise in public health practice and continual personal development. As a highly trained member of a public health organization, an MOH is a mentor, educator and role model who contributes to the improvement of the public health knowledge and skills of others. An MOH also contributes to the generation of new knowledge to inform practice including the identification of applied research questions and facilitation and/or participation in research opportunities and in the dissemination of research.

Typical MOH roles and responsibilities in this domain include:

- Meeting ethical and legal requirements for practice.
- Treating all people with respect and maturity.
- Maintaining professional expertise in public health.
- Providing authority to staff for certain delegated medical acts such as immunization and the treatment of communicable diseases.
- Improving the competencies of public health staff.
- Informing other health care providers regarding public health issues.
- Contributing to the training and development of future practitioners (involved in curriculum development, teaching, serving as a preceptor, research project supervisor etc., as is relevant).
- Facilitating and participating in research into health of the public and the improvement of public health practice.
- Providing methodological assistance to community agencies on public health research.
- Upholding principles of research ethics involving human subjects and their application in working with marginalized/disadvantaged populations.

To fulfil this role, a Medical Officer of Health should be able to...

- 8.1. Demonstrate sensitivity and understanding of varied cultural, ethnic, socioeconomic backgrounds of individuals and groups and apply public health ethical principles in practice and research.
- 8.2. Continually seek and acquire professional development in order to maintain ongoing improvement in skill areas consistent with enhancing organisation operations and outcomes.
- 8.3. Provide clinical oversight for delegated medical acts as required.
- 8.4. Mentor less experienced colleagues and serve as a role model.
- 8.5. Contribute to team and organizational learning in order to advance public health goals.
- 8.6. Apply research and statistical methodological expertise to enable community health assessment and the critical appraisal of relevant public health research studies and reports.
- 8.7. Contribute to the identification of applied public health research priorities and participate in the conduct of applied public health research projects.

ANALYSIS AND DISCUSSION

Using existing public health legislation and MOH position descriptions, the minimum set of MOH competencies have been developed to assist various audiences to better address current challenges associated with MOH positions in Canada. The working group has received and considered feedback from MOHs and selected professional organizations as it has proceeded, through multiple iterations, to develop this set of minimum MOH competencies. Reflecting the existing need for such a tool, the working group is aware of two instances in which earlier draft versions of the competency set have already been put to use. This section addresses efforts at further validation and assessment of the competency set and the working group's reflections on potential implications.

Alignment of the Minimum MOH Competencies with Community Medicine Training Requirements

Specialty certification in Community Medicine is commonly viewed as the preferred training path for MOHs. A comparison was made between an earlier draft of the minimum MOH competencies and the Royal College Training Requirements for Community Medicine specialists. There are a number of caveats to this type of comparison:

- Training requirements are not the same as competencies
- Public health practice as an MOH is but one of many potential career paths for Community Medicine specialists
- The level of detail between the two items differs requiring some subjective interpretation.

Nevertheless, a comparison was made and the cross-walk between the two sets of competencies is shown in Appendix B.

For the most part, there appears to be considerable alignment between the minimum MOH competencies and the Royal College training requirements. Overall, for many of the statements, the Royal College requirements appear to expect a greater breadth and depth of knowledge and skill. However, the MOH competencies are more explicit regarding strategic leadership, as well as understanding of, and working within, a political context. One Royal College statement dealing with occupational health did not have any associated MOH competencies identified, but this is a variable area of emphasis for MOHs across the country. The extent of comparability between the two competency sets indicates that the minimum MOH competencies have achieved both content and construct validity.

Minimum MOH Competencies as a Basic Tool

There are various system actors who will have particular interests and perspectives on the development of minimum MOH competencies, including:

- Provincial/Territorial governments which, through their public health legislation, have the option to establish expectations for MOHs' training and/or competencies. In addition, CMOHs in some jurisdictions may need to approve the designation of physicians as MOHs and may also be asked by Provincial/Territorial Medical Licensing Authorities to advise on the competency of a candidate for a restricted license and to provide periodic assessments of their practice.
- Provincial/Territorial Medical Licensing Authorities who establish licensing/registration for practice policies in their jurisdictions, which may include expectations for physicians embarking on a change of scope of practice (e.g., from community family practitioner to MOH).
- Physicians intending to practice in a MOH position have a professional responsibility to practice within the scope of their training and competencies and need to be aware of the competency expectations for MOHs. The minimum MOH competencies outlined in this report are entry level competencies.
- Employers of MOHs who have a responsibility to employ suitably qualified individuals may require guidance to ensure that they are hiring personnel who at least meet these minimum competency expectations, particularly where legislative or policy guidance is minimal or does not exist.
- The Royal College of Physicians and Surgeons of Canada, which sets the training requirements for Community Medicine specialists
- Medical associations and societies.

Considering the above set of system actors and an earlier discussion regarding common versus augmented roles, the intent of this MOH minimum competency set is to serve as a tool or resource that can be applied by the relevant system actor for a particular context. One would anticipate an organization needing to tailor the minimum competencies for the intended use. For example, individual jurisdictions and/or employers may wish to tailor the competency requirements to incorporate an increased depth and/or breadth of required competencies whether based on the complexity of issues addressed by an organization and/or additional role requirements (e.g., executive management of organization, providing analysis regarding the planning and delivery of all health services, or specific (sub-specialist) content expertise). In the case of the College of Physician and Surgeons of Ontario, the competency statements are being used as the basis for a pilot instrument to assess the existing competencies of physicians intending to change the scope of their practice from clinical medicine to MOH practice.

Minimum MOH Competencies and Training Path Options

The purpose of this work has been to develop a set of minimum MOH competencies. Strictly speaking, the issue of which path or paths are appropriate to achieve these competencies is out-of-scope for this project. Nevertheless, considering the practical reality of this question in the current context of MOH supply and demand challenges, the emergence of a number of Canadian MPH programs, and at least one provincial College grappling with the issue of physicians changing their scope of practice to public health, some commentary from the working group is provided here. Clearly the working group is not empowered to make any particular definitive or binding recommendation. Nevertheless, having worked on developing these competency statements, and being familiar with MOH practice and training programs, the following commentary is provided.

To acquire the minimum MOH competencies, graduate-level course-based learning is considered a necessary, but insufficient approach. Becoming proficient in many of these competencies requires an opportunity to practice them. The best match between a training program and the minimum MOH competencies is residency training leading to Royal College certification in Community Medicine. It is therefore the preferred training path for physicians embarking on the MOH career path. The program includes a minimum of one academic year of graduate course work (although often taken as part of an MPH-like degree) combined with a minimum of two years^{vii} of highly structured, supervised, and evaluated practical, field-based rotations/placements. Trainees must also pass a national certifying examination and subsequently fulfil annual requirements for the maintenance of certification.

As noted earlier, an MOH role is only one of many potential career paths for a Community Medicine specialist and therefore this training program is broader than the requirements for MOH practice. Nevertheless, even with Community Medicine training, the typical graduate has to further develop their competencies over time to be able to fulfill senior MOH positions in public health organizations. Reflecting a number of systemic challenges, while the number of training positions nation-wide is relatively modest, Community Medicine residency programs are not over-subscribed.

It is possible that an individual with other specialty training including Family Medicine may also achieve these minimum competencies after they complete a professional graduate education in public health (MPH-like degree) and mentored experiences in public health practice over a period of time. It is the working group's impression that in isolation, an MPH-like degree, with a short practicum (i.e., 12 weeks), is unlikely to prepare an individual to meet the minimum MOH competencies.

^{vii} The second year of placements may include field placements and/or additional academic preparation or research experience. In some instances, a third year of field placements can also occur during a training program.

Practice Settings and MOH Competencies

Notwithstanding the best intentions of both jurisdictions and individual physicians, there may be pragmatic considerations in hiring those without minimum competencies, particularly in the short term, to address supply and demand challenges for MOHs that are impacted by many factors including the shortage of qualified practitioners, desirability of the work environment, and the structural configuration of public health (e.g., solo^{viii} vs. group MOH practice, number of local/regional organizations within jurisdictions). In such cases, attempts should be made to address gaps and to provide interim supervision or support for candidates where competencies are lacking.

Such an approach is obviously easier to do in an MOH team setting, particularly one including one or more Community Medicine specialist physicians. A team setting provides an ideal opportunity for the development of competencies appropriate to organization needs and individuals' career paths, not only for entry-to-practice, but also in preparation for more demanding augmented roles. It is obviously a much more supportive environment for an individual with more limited public health training than is solo practice. However, the structural challenge in many parts of the country is that the number and population base of many employing organizations are such that they can only support a lone MOH. To further compound circumstances, those jurisdictions with many lone MOH positions are generally the jurisdictions that also have the greatest difficulty in recruiting Community Medicine specialist physicians.

This perspective on MOH group practice has some similarities to the Canadian Medical Association's recommendations on anaesthesia practice. The CMA policy recommended that anaesthetic services should be provided by certified anaesthetists when possible, but that if circumstances warranted that anaesthesia services be provided by additionally trained family practitioners (FP-A), that the preferred model for the delivery is with at least one RCPSC-certified anaesthetist working with FPs who have appropriate training in anaesthesia.¹⁵ The analogy with MOH practice is not perfect since there is an expectation that the FP-A practitioner will limit their work to less complex cases because it is usually possible to transfer patients to a more specialized centre of care. One, however, cannot transfer a community and a solo practice MOH is expected to fulfil all the roles and responsibilities of an MOH. The minimum MOH competency set was developed to more clearly identify the minimum, entry-level competency requirements for MOH practice and will hopefully provide helpful guidance in such scenarios.

^{viii} It is recognized that the MOH functions as part of an inter-disciplinary team. The "solo" aspect is whether the MOH is the only public health physician in the organization versus there being a team of MOHs.

Concerns for Unintended Consequences

Preliminary consultations with MOHs have identified that there are fairly widespread concerns regarding potential unintended consequences associated with this competency set. The on-line survey provided conflicting comments regarding the level of the competencies. Some respondents were concerned that the identified competencies may be perceived by some as too onerous and thus be a barrier to recruiting physicians into public health practice. However, the competencies are based on the existing position descriptions for MOHs and therefore felt to reflect existing expectations for MOH practice. As medical professionals, physicians have a responsibility to be aware that they are adequately prepared to fulfill this role.

The more commonly expressed concern was that in identifying these minimum competencies, it was in effect watering down expectations for MOHs and that specialty certification should in fact be the minimum standard. Others have commented that even specialty certification is just the beginning of the MOH career path and that there is a need for further development in the years that follow. Similarly, others have stressed the importance of focussing on preparing MOHs for the increasing complexity and demands of practice, which presumably includes strengthening residency programs and providing continuing professional development post-certification. Particular examples of concerns include physicians who may wrongly conclude that MPH preparation is equivalent to specialty certification or that employers will simply seek the minimum in order to save costs, although it is the norm in many settings for employers to provide an additional \$10,000 per year to MOHs who possess RCPSC specialization.

Part of the concern may be that the minimum MOH competencies are being interpreted as being equivalent to MPH training. This is not the perspective of the working group. As previously stated, an MPH degree, will in general, be necessary but insufficient preparation for MOH practice. The Community Medicine training program is the best available means of acquiring the minimum MOH competencies. At the moment, only BC's legislation states that such training is required, although it also acknowledges that there are other means by which physicians can achieve "sufficient training, knowledge, skills and experience to exercise the powers and perform the duties of a medical health officer." The perspective of the working group is that it is feasible that a physician with an MPH and additional practical public health experience can meet the minimum competencies. Nevertheless, this is a decision that needs to be made by reflective practitioners, employers, CMOHs and provincial/territorial medical licensing authorities. The intent is for this set of minimum competencies to be a resource to assist with this decision-making.

Compared to the status quo outside BC, the development of a minimum set of competencies is actually *raising* the floor for expectations for MOHs in jurisdictions across this country. Many P/Ts do not stipulate any training requirements or competencies for MOHs beyond medical licensure and some employ physicians with no formal training at all.

Even in those jurisdictions that do specify a minimum, it is typically only a year of relevant course work. As clearly outlined in this report, while necessary, a year of coursework will be insufficient to prepare someone for full MOH practice (i.e., meet these minimum MOH competencies). At the same time, this competency set is a basic tool and it is expected to be tailored to suit local circumstances. There is nothing stopping jurisdictions and employers from continuing to state, as many do now, that specialty certification is preferred or required.

Potential Application to Address Identified System Needs

A previous discussion paper examining the need to identify the competencies for MOH practice identified potential uses including assessing MOH applicants without specialty training, providing more definitive guidance to practicing physicians who would like to become MOHs without seeking specialty training, and to assist with professional development of MOHs.⁵ Scenario questions from that paper are reproduced below with a preliminary response now that a set of MOH competencies has been developed.

- On what rational and consistent basis should a provincial or territorial Chief Medical Officer of Health (CMOH) assess the appropriateness of an MOH applicant without specialty training in public health?
 - One approach would be to ask the candidate to demonstrate/document how their particular mix of training and experiences has prepared them to fulfil each of the MOH competency statements (i.e., a portfolio with documentation for each statement would be prepared). For example, demonstrate how you have made decisions in a timely manner in complex situations and environments and been accountable for those decisions (#3.6). This is part of the approach that the College of Physicians and Surgeons of Ontario is piloting.
 - An alternative or complementary approach would be to have an interview probing particular competencies of concern.
 - Any identified gaps could form the basis of a personal development plan that could be addressed in a variety of ways (e.g., course, conference, personal learning project, mentoring, etc.) and might be a condition of employment. Formal mentorship with an experienced, certified specialist could be a component of the plan.
- If an experienced community physician wishes to change careers to become a MOH, what training path should they pursue?
 - Community Medicine residency program is an obvious option, but may not be feasible/attractive due to personal circumstances.

- An alternative approach would be to consider a MPH program as an initial step. One could work with the MPH program director and the list of minimum competencies to determine which of them could be adequately addressed through an MPH, strategically utilizing electives and supervised and evaluated practical experiences. There would likely remain a number of under-developed competencies that could be addressed through a supplementary personal development plan with mentorship by an experienced, specialty-certified physician until all of the minimum competencies are acquired.
- What are the requirements for continuing professional education and career path development required for MOHs?
 - An MOH could use the list of competencies to identify priorities for professional development. For example, the MOH might identify that applying effective leadership styles appropriate to particular situations and circumstances is a priority (#7.6). Their supervisor could also use the competencies to identify from their perspective, the organization’s needs in further skill development.
 - These minimum competencies are relatively generic in that they do not differentiate between different types of MOHs and their roles. It is possible to further refine them to identify in more detail requirements for different levels of the system (e.g., local Associate MOH, regional MOH, provincial/territorial Chief MOH, provincial content expert, etc.).

CONCLUSION

The minimum MOH competency set has been developed to describe the minimum set of competencies required to fulfil the common roles and responsibilities of MOHs across the country. It is anticipated that the competency set will be potentially useful for a range of potential audiences. Recognizing differences in needs and contexts, it is expected that this competency set will be tailored to suit a particular intended use. As a set of *minimum* competencies, circumstances in the local context may require a jurisdiction to set greater expectations for the breadth and depth of particular competencies.

Moving forward, key next steps include defining an organizational sponsor for these competencies, sharing the competency set with key target audiences, and assessing over time the use and impact of the competencies to inform future revisions.

APPENDIX A - LEGISLATED MOH DUTIES IN SELECTED PROVINCES

Table 1: Duties and Training Requirements of Medical Officers of Health of Selected* Provinces as Stipulated in Legislation, Regulation and Standards

| Duties and Training Requirements | BC | Alberta | Saskatchewan | Manitoba | Ontario | Quebec | New Brunswick | Nova Scotia | Nfld & Labrador |
|---|----|---------|--------------|----------|---------|--------|---------------|-------------|-----------------|
| <u>Duties</u> | | | | | | | | | |
| Report to Board | | | | | X | X | | | |
| Lead/administer public health staff | | | | | X | X | | | |
| Assess and issue reports on health issues to public | | | | | X | X | | | |
| Receive reports on communicable diseases | X | X | X | X | X | X | X | X | X |
| Receive reports on non-communicable diseases | X | X | X | X | X | X | X | X | X |
| Conduct surveillance and planning | | | | | X | X | | | |
| Power to enter, inspect, investigate regarding health hazards | X | X | X | X | X | X | X | X | X |
| Power to enforce termination of health hazards (related to things, places and people) | X | X | X | X | X | X | X | X | X |
| Conduct prevention and promotion to improve health of population and influence population health determinants | | | | | X | X | | | |
| <u>Training & Skills</u> | | | | | | | | | |
| Royal College certification in Community Medicine | R | | O | O | O | O | | | |
| Masters' level training in public health | | | O | | O | O | | | |
| Equivalent combination of experience and qualifications | A | | O | O | | | | | |
| Qualification from university outside Canada that is viewed as equivalent | | | | | O | O | | | |
| Diploma | | | | O | O | O | | | |

*: those provinces that have regional/local MOHs; R: required; A: alternative; O: one of two or more required options;

APPENDIX B: CROSSWALK BETWEEN ROYAL COLLEGE TRAINING REQUIREMENTS AND DRAFT MOH COMPETENCIES

The following table compares the Community Medicine training requirements with an earlier version of the minimum MOH competencies.

| Royal College Training Requirement | Draft MOH Competency | Comments |
|---|---|---|
| <p>Assess and describe the health of a population.</p> <p>Describe the distribution and determinants of health status of a specific population.</p> | <p>Assess and describe systematically a population’s health status, the determinants of significant health problems and their distributions using quantitative and qualitative methods</p> <p>Identify and integrate information on health status, existing services and evidence of effective interventions to identify population health needs.</p> | <p>Similar, MOH competencies provide more detail about integration and identification of needs.</p> |
| <p>Identify those conditions or population characteristics that lend themselves to surveillance and be able to select the most appropriate method.</p> | <p>Evaluate the effectiveness of surveillance systems to monitor the health of the public</p> | <p>RC seems to be requiring higher level analysis</p> |
| <p>Select and interpret relevant social, demographic and health indicators from a variety of data sources.</p> <p>Identify and interpret biological risk markers, e.g. age, sex, genetic makeup.</p> <p>Identify and demonstrate an understanding of social and economic environmental factors, such as immigration policies and distribution of wealth.</p> <p>Identify and demonstrate an understanding of physical</p> | <p>Assess and describe systematically a population’s health status, the determinants of significant health problems and their distributions using quantitative and qualitative methods</p> | <p>RC provides more detail and may be requiring a greater level of breadth and depth.</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
|---|--|---|
| <p>environmental factors, including noise, pollutants and hazardous industrial processes, that are relevant to the given clinical context (individual, local, regional, global).</p> <p>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.</p> | | |
| <p>Identify and demonstrate an understanding of factors that influence the potential for change in a given context or population.</p> | <p>Establish and apply criteria to prioritize population health needs.</p> | <p>RC requirement a likely sub-competency of MOH statement.</p> |
| <p>Use computers or information technology in epidemiological investigations and data analysis.</p> | <p>Understand the use and benefits of information technology systems (eg databases and spreadsheets) in monitoring and assessing the health of the public.</p> <p>Use information and communication technology for word processing, reference retrieval, statistical analysis, graphic display, database management, and communication</p> | <p>Similar – MOH competency worded more broadly.</p> |
| <p>Interpret epidemiologic studies and assess their validity and applicability to a particular situation.</p> | <p>Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems</p> | <p>Similar</p> |
| <p>Describe and apply guidelines for determination of causality (Koch, Hill).</p> <p>Describe the major environmental health hazards and diseases, and the interaction of air, water and soil</p> | <p>Apply the following concepts to public health practice: the health status of populations, inequities in health, the determinants of health and illness, strategies for health promotion, disease and injury prevention and health protection, as well as the factors that influence</p> | <p>RC requirements are likely sub-competencies of MOH statement, likely requiring greater depth and breadth</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
|---|--|--|
| <p>characteristics with them.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Identify those conditions that are amenable to population-based screening, and calculate and interpret screening test characteristics.</p> | <p>the use of health services.</p> | |
| <p>Understand the principles of infectious disease epidemiology and apply them in the investigation and management of infectious disease.</p> <p>Conduct a communicable disease outbreak or disease</p> | <p>Apply the following concepts to public health practice: the health status of populations, inequities in health, the determinants of health and illness, strategies for health promotion, disease and injury prevention and health protection, as well as the factors that influence the use of health services.</p> | <p>Similar – Note: the “lead effectively” item is broader than just health protection scenarios and highlights this crucial competency for MOHs.</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
|---|---|---|
| <p>cluster investigation.</p> <p>Manage a communicable disease outbreak.</p> <p>Carry out a health risk assessment of an environmental hazard.</p> <p>Manage individually, or in a team, health risks from environmental or occupational exposures.</p> | <p>Demonstrate a thorough understanding of a MOH's legislative responsibilities and authorities to promote and protect the health of the public.</p> <p>Lead an investigation to assess situations of potential risk to human health.</p> <p>Liaise with other professionals and organizations to gather information and coordinate action to investigate and mitigate risks.</p> <p>Determine the best course of action, including exercising legislated authority as required, to address situations of potential risk to human health and take responsibility for recommended actions.</p> <p>Provide direction to public health staff in the investigation and control of potential risks to human health.</p> <p>Lead effectively in uncertain or ambiguous situations</p> | |
| <p>Understand, interpret and apply as appropriate, the methods and recommendations of relevant practice guideline processes.</p> | <p>Apply the following concepts to public health practice: the health status of populations, inequities in health, the determinants of health and illness, strategies for health promotion, disease and injury prevention and health protection, as well as the factors that influence</p> | <p>RC requirement a likely sub-competency of MOH statement.</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
|---|---|----------------|
| | <p>the use of health services.</p> <p>Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems</p> | |
| <p>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.</p> <p>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.</p> | <p>Apply the following concepts to public health practice: the health status of populations, inequities in health, the determinants of health and illness, strategies for health promotion, disease and injury prevention and health protection, as well as the factors that influence the use of health services.</p> <p>Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems</p> <p>Recognize the social, cultural and ethical issues related to a public health issue.</p> <p>Assess the relative merits (e.g. considering suitability to target group, resource requirements, etc.) of potential intervention components (e.g. education, policy, regulation, collaboration, clinical services, etc.) to comprehensively address a public health issue.</p> <p>Identify effective, comprehensive strategies to address identified population health needs.</p> | <p>Similar</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| | <p>Develop and implement an action plan with clear and measurable objectives and a sound and sufficient budget.</p> <p>Design program evaluation plans to assess a public health program and interpret findings in making improvements.</p> | |
| <p>Contribute to the development of a community emergency preparedness plan, including measures to prevent and manage biological, chemical and radiological agents.</p> | <p>Develop an organizational plan to prepare for, respond to, and recover from a public health emergency.</p> | <p>Similar</p> |
| <p>Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the internet and health, epidemiological and social sciences literature.</p> | <p>Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems</p> | <p>Similar</p> |
| <p>When called upon for advice, clarify the nature of the request and establish (negotiating where required) the desired deliverables.</p> <p>Use a variety of methods to collect information relevant to the clinical setting and situation at hand.</p> <p>Efficiently collect the information appropriate to the request.</p> <p>Formulate clear and realistic recommendations.</p> <p>Communicate the assessment and recommendations in</p> | <p>When called upon for advice, clarify the nature of the request and collect and synthesize relevant information and evidence.</p> <p>Critically appraise the evidence relating to interventions to identify effective and ineffective ways to address priority health problems</p> <p>Recognize the social, cultural and ethical issues related to a public health issue.</p> <p>Assess the relative merits (e.g. considering suitability to target group, resource requirements, etc.) of potential</p> | <p>Similar</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| <p>a manner (oral and/or written) that is most suitable to the client and given circumstances.</p> | <p>intervention components (e.g. education, policy, regulation, collaboration, clinical services, etc.) to address a public health issue.</p> <p>Identify effective, comprehensive strategies to address identified population health needs.</p> <p>Make decisions in a timely manner in complex situations and environments and take accountability for these decisions.</p> <p>Provide health status, demographic, statistical, programmatic and scientific information tailored to a wide range of audiences (including political/executive audiences and the general public) and that is likely to influence their actions</p> | |
| <p>Interpret and present epidemiological data and risk information to affected individuals, the public, other professionals and the media using a variety of modalities.</p> | <p>Provide health status, demographic, statistical, programmatic and scientific information tailored to a wide range of audiences (including political/executive audiences and the general public) and that is likely to influence their actions</p> <p>Understand the political sensitivities of data and information release</p> | <p>Similar, but MOH competencies highlight the political savvy required to recognize implications</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| <p>Develop and implement a communication plan about a public health issue, including a media component.</p> <p>Respond effectively to public and media enquiries about specific health issues.</p> | <p>Provide health status, demographic, statistical, programmatic and scientific information tailored to a wide range of audiences (including political/executive audiences and the general public) and that is likely to influence their actions</p> <p>Mobilize individuals and communities by using appropriate media, community resources and social marketing techniques</p> | <p>RC requirements are likely sub-competency of MOH statement.</p> |
| <p>Effectively communicate with members of an interdisciplinary team for the purpose of information exchange, conflict resolution, and the provision and receipt of feedback.</p> | <p>Create and support inter- and cross-disciplinary cohesion and team building</p> | <p>Similar – RC requirement somewhat more detailed but MOH worded more broadly</p> |
| <p>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.</p> <p>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.</p> <p>Use knowledge of the Canadian health system defining legislation, funding and organizations, to analyse</p> | <p>Understand the roles that different organisations, agencies, individuals and professionals play and the influence they may have on health and health inequalities.</p> <p>Understand local, provincial, and national political systems and connect with them appropriately</p> <p>Evaluate the politically challenging environment in which one works and operate effectively within it.</p> | <p>Similar, MOH statements emphasizing political environment</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| community health issues. | | |
| <p>Employ a variety of means to engage and enable the participation of identified key stakeholders.</p> <p>Clearly articulate the goals and objectives of a given collaborative process.</p> <p>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.</p> | <p>Use skills such as team building, negotiation, conflict management and group facilitation to build effective partnerships with key institutions and players</p> <p>Build and sustain strategic alliances and partnerships within a politically challenging environment</p> | RC requirements provide more detail, but MOH focuses more on inter-agency strategic alliances. |
| Use an economic analysis in the assessment of a health issue and proposed intervention options. | Systematically assess the feasibility and social, economic, environmental, legal and ethical implications of policy options based on analysis of diverse forms of evidence | Similar, but RC may be requiring greater depth. |
| 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. | Demonstrate a thorough understanding of a MOH's legislative responsibilities and authorities to promote and protect the health of the public | Similar, but RC may be requiring greater depth. |
| Describe the organization of workplace health services. | ? | Doesn't appear to be covered in MOH competencies |
| Design, implement, manage and evaluate a program. | <p>Develop and implement an action plan with clear and measurable objectives and a sound and sufficient budget.</p> <p>Design program evaluation plans to assess a public health program and interpret findings in making</p> | Similar |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| | <p>improvements</p> <p>Analyse program/project progress, performance standards, and objectives against agreed specifications.</p> | |
| Design, implement and evaluate a change management process. | <p>Diagnose and resolve communication and coordination challenges to policy change within an organization</p> <p>Lead change within a politically challenging, multi-agency and multisectoral environment.</p> | RC more specific/detailed but MOH is broader in recognizing that leading change is broader than just in organization |
| Develop and implement a strategic plan. | Identify a strategic direction and vision for health and wellbeing and communicate it consistently to a wide range of people and agencies. | Similar although MOH statement broader |
| Participate in common human resource management functions, including (but not limited to) hiring, firing and performance appraisal of staff. | Understand human resources principles and practices | Similar, although RC states participation which may not be expected as a core role for all MOHs |
| Develop and manage a budget. | Set priorities and maximize outcomes based on available resources | RC has stronger requirement, but managing budget not core for all MOHs |
| Understand the impact of various leadership styles and apply them appropriately in a variety of community and organizational settings. | Apply effective leadership styles appropriate to particular situations and circumstances | Similar |
| Understand and use the techniques of conflict management, including negotiation and arbitration. | Use skills such as team building, negotiation, conflict management and group facilitation to build effective partnerships with key institutions and players | Similar |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| | <p>Lead effectively in uncertain or ambiguous situations</p> <p>Create and support inter- and cross-disciplinary cohesion and team building</p> | |
| Understand and use a variety of quality improvement techniques as appropriate to the organization and setting. | Contribute effectively to organizational change and implementation of policy decisions. | Somewhat similar |
| Conduct a policy analysis. | <p>Systematically assess the feasibility and social, economic, environmental, legal and ethical implications of policy options based on analysis of diverse forms of evidence</p> <p>Apply analytic tools for comparing options and weighing benefits vs. cost in determining a recommended course of action</p> | Similar |
| Describe mechanisms of policy development and methods of implementation, including legislation, regulation and incentives. | Apply analytic tools for comparing options and weighing benefits vs. cost in determining a recommended course of action | Similar, but RC requirement appears to be requiring greater depth. |
| Recognize situations where advocacy is required and define strategies to effect the desired outcome. | <p>Identify issues and situations where advocacy may be effective</p> <p>Prepare an advocacy strategy to influence public policy based on evidence of effective interventions to address the problem and on evidence for effective public health advocacy</p> <p>Understand how to influence and shape the political</p> | Similar, but MOH competencies highlighting required skills to work in a political environment. |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| <p>Pose a research question and participate actively in the complete research process from grant preparation through to dissemination of findings.</p> <p>Describe the elements of quantitative, qualitative and action research, including study purpose, design, conduct, analysis, interpretation and reporting.</p> <p>Describe sampling methods as well as the estimation of appropriate sample sizes, including a consideration of type 1 and 2 errors.</p> <p>Select and apply descriptive and analytical methods appropriately.</p> <p>Recognize potential source of bias in research and describe methods to reduce the impact of such bias through design and/or analysis.</p> <p>Calculate and interpret measures of frequency (rate, ratio) and of risk (relative risk, attributable risk, odds ratio, etiologic fraction, preventive fraction).</p> | <p>agenda to improve health and reduce inequalities</p> <p>Formulate research questions and hypotheses.</p> <p>Apply public health research principles in the design and conduct of research activities.</p> <p>Apply principles of good ethical/legal practice as they relate to study design and data collection, analysis, reporting and dissemination</p> | <p>RC requirements appear to be of greater breadth and depth.</p> |
| <p>Adapt educational and training strategies to the needs of the learner(s).</p> | <p>Demonstrate an ability to share knowledge, tools, expertise and experience</p> | <p>Similar, but MOH competency is broader and captures leadership</p> |

| Royal College Training Requirement | Draft MOH Competency | Comments |
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| | Contribute to team and organizational learning in order to advance public health goals | and change agent elements. |
| Continually evaluate one's abilities, knowledge and skills, and know one's professional limitations, seeking advice and assistance where appropriate. | Continually seek and acquire professional development in order to maintain ongoing improvement in skill areas consistent with enhancing organisation operations and outcomes | RC statement is broader in terms of self-evaluation and knowing one's limits. |
| Identify ethical issues arising in the course of community medicine practice, such as consent, confidentiality, privacy, resource allocation, conflict of interest, public safety and individual choice, and apply appropriate strategies to address them. | Demonstrate sensitivity and understanding of varied cultural, ethnic, socioeconomic backgrounds of individuals and groups and apply principles of non-maleficence, beneficence, equity and justice | Similar, but RC statement more detailed |
| Recognize, analyze and know how to deal with unprofessional behaviours in clinical practice, taking into account local and provincial regulations. | Provide clinical oversight for delegated medical acts as required | Don't align. RC statement focussed on unprofessional behaviour and MOH on need to delegate acts to others (e.g. immunization, meds, etc.) |
| Adopt specific strategies to heighten personal and professional awareness and explore and resolve interpersonal difficulties in professional relationships. | <p>Diagnose and resolve communication and coordination challenges to policy change within an organization</p> <p>Create and support inter- and cross-disciplinary cohesion and team building</p> | MOH statements are sub-competencies |

APPENDIX C - INFORMATION FROM OTHER PHYSICIAN AREAS OF PRACTICE

Three other fields of medical practice were examined in which there is a mix of certified specialists and non-specialist physicians: emergency medicine, anaesthesia, and obstetrical care. Information was gathered through a combination of internet searches and key informant interviews.^{ix}

Emergency Medicine

Physicians working in emergency departments have a mix of training of backgrounds:

- Those without any additional training/certification in emergency medicine
- FPs with a certificate of special competence in emergency medicine (i.e., CCFP(EM)) from the College of Family Physicians of Canada (CFPC)
- Specialists certified by the Royal College of Physicians and Surgeons of Canada (RCPSC).

The certification programs of the CFPC and the RCPSC have both existed since the early 1980s. While the RCPSC has specialty training requirements to guide its 5-year training program, the FP program has a detailed *Educational Reference Manual* that outlines terminal objectives and a study guide for those universities offering this 1-year program. With the establishment of the specialty training program, it was originally thought that the Royal College certified specialists would work exclusively in teaching centres while the CCFP(EM) graduates would work in community hospitals. This did not materialize due to limited numbers of specialists, as well as less distinction than anticipated between the two types of graduates after a couple of years of practice. As of 2003, the number of entry positions to CCFP(EM) was more than three times that of FRCPC programs (70 vs. 20).¹⁶ The distribution of the type of physician working in the emergency department has been changing, at least in Ontario. During the 1990s, the proportion of CCFP(EM) increased considerably while the proportion of RCPSC certified specialists remained constant. By 2000, the proportion of patient visits to Ontario emergency departments by physician type was 71% for FP/GP, 25% for CCFP(EM), and 4% for RCPSC specialists.¹⁷

Anaesthesia

The provision of anaesthesia services by family practitioners is a longstanding phenomenon in this country. As of the late 1980s, about 25% of all anaesthesia services in Canada were

^{ix} Emergency medicine: Dr. Levotsky, family practice emergency medicine program, University of Toronto; Anaesthesia: Dr. Mark Levine, family practice anaesthesia program, University of Toronto;

provided by family practitioners.¹⁵ Primarily an issue in rural settings, access to other services including surgery, obstetrics and emergency medicine is dependent on the availability of anesthesia services. Training specialists to meet the anaesthesia needs of small community hospitals however has been described as not seeming sensible. Recruiting specialists to such settings is problematic and they do not offer the range and volume of cases to support maintenance of competencies at a RCPSC specialist level. Many FP programs offer an additional year of anesthesia training following the initial 2-year family medicine (i.e., CCFP) training.

Over the past 20 years, there have been a number of recommendations to address the situation:

- A 1989 Canadian Medical Association (CMA) policy summary¹⁵ makes the following key points:
 - Anaesthetic services should be provided by certified anaesthetists when possible
 - If the services of a family practitioner anaesthetist are required, that the practice of anaesthesia by appropriately trained family practitioners should be supported.
 - Where volume is sufficient and when indicated, the preferred model for the delivery of anaesthesia services by family practitioners is at least one RCPSC-certified anaesthetist working with FPs who have appropriate training in anaesthesia
 - Acceptance of the educational objectives^x developed by the Association of Canadian University Departments of Anesthesia (ACUDA) and the CFPC.
- A 2001 Joint Position Paper on Training for Rural Family Physicians in Anesthesia¹⁸ recommends:
 - A single standard of care in urban and rural Canada for the provision of anesthesia services
 - Training programs in FP Anaesthesiology should be accredited and should provide verification of the qualifications of the trainees.
 - A curriculum for FP anaesthesiology should be developed based on the educational objectives
 - Formal realistic mechanism for the evaluation and verification of the achievement of national training standards for FPs who have received formal anaesthesiology training through non-Canadian programs
 - Formal, voluntary, CME programs should be readily available
- In 2003, the CFPC identified accreditation standards for FP anesthesia training programs.

^x Outline expectations in 9 areas: preanesthetic assessment; airway control; ventilation; cardiovascular status; anesthesia skills during surgery; trauma management; obstetrical anesthesia; medical management; social and ethical considerations in the rural setting.

- A national collaborative committee on anesthesia developed a national curriculum for training programs.

At this point, there is no national certification examination and graduates of the CFPC's program typically receive a certificate of successful completion from the local program. There is also no national mechanism for assessing physicians who received anesthesia training abroad, although individual provincial colleges have established mechanisms for evaluation of foreign trained physicians. The FP-A graduates would be expected to provide anesthesia care for relatively healthy patients undergoing straightforward procedures, usually in a rural setting. There are no strict guidelines regarding where the boundary lies. There is a risk classification score (known as the ASA score 1-5) and the expectation is that FP-As would limit themselves to the care of the lowest risk ASA 1 and 2 patients. Ultimately, what they do would be determined by their own self evaluation of knowledge, skills, ability and risk awareness and to some extent by the privileges afforded them by the hospital.

Obstetrics

Obstetrics is another area of medical practice in which care is delivered by a mix of RCPSC specialists and GP/FPs. Additional training in obstetrics for FPs is less formalized than for anesthesia or emergency medicine. There are neither specific accreditation standards nor certification of special competency in obstetrics by the CFPC. Individual university programs may offer post-CCFP training in low risk obstetrics (e.g. University of Toronto – 3 months; University of Alberta – 12 months for combined surgery/obstetrics with focus on rural practice).

Analysis

These three medical fields have a physician workforce with a blend of training backgrounds. Each of the three practice areas have unique practice features and variation in the extent to which RCPSC specialists contribute to the overall workforce, as well as the manner in which the practice areas have been addressed by the CFPC. The extent to which any of these examples are comparable to public health medicine is a key consideration. For both obstetrics and emergency medicine, these areas of practice are core expectations for the CCFP graduate. The additional/supplementary post-CCFP training period provides an opportunity for additional practice experience and skill development built upon a core foundation developed during the preceding two years of postgraduate/residency (CCFP) training, as well as undergraduate medical (MD) education and training. This is distinctly different from public health in which only a cursory exposure to relevant knowledge and skills occurs in the undergraduate medical curriculum and none would currently be expected in the FP residency. Therefore, obstetrics and emergency medicine appear to add little in consideration of public health medicine training paths.

Anesthesia is the other area of medical practice examined and is of potentially greater relevance. While anesthesia practice builds on the knowledge and skills expected of a FP, these need to be developed in much greater breadth and depth for a FP-A. The trend over

the past few decades has been to create more explicit expectations in the training objectives and curriculum for this area of practice and the introduction of accreditation of training programs. The argument for needing FP-As is based on settings with lower population where it is neither feasible to recruit nor fully utilize a specialist. Recognizing the less intensive training period, the FP-A is expected to provide services to simple and straight forward cases. More challenging cases can be referred to a more specialized centre. While this may work for clinical medicine, this is more problematic for public health systems in which services and expertise need to be available within the communities, although assistance may be sought when necessary.

Underlying this pragmatism are several points explicitly addressed in the CMA policy statement. While there is a role for the FP-A, it is preferred that anesthesia services are provided by a specialist. In addition, ideally, the FP-A is part of a group anesthesia service that includes at least one specialist. The extent to which this type of thinking is relevant to the public health context needs to be further explored, but would have implications for system design and organization.

A commonality for all of these areas of medicine is a focus on practice. Practitioners in their post-CCFP training are continuously applying their new knowledge and skills in a supervised setting. This is quite unlike typical public health Masters level training programs during which students have to spend so much time building basic public health knowledge and skills that there is little time available to actually apply them in a practical and supervised setting. Looking internationally, many MPH programs provide no practical training at all, although the Canadian MPH program guidelines stress the importance of a 12-16 week practicum. This is obviously much shorter than the practical opportunities in one of these post-CCFP programs, which are generally between 3 and 12 months.

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