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Identifying Public Health Competencies Relevant to Family Medicine

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Abstract: Public health situations faced by family physicians and other primary care practitioners, such as severe acute respiratory syndrome (SARS) and more recently H1N1, have resulted in an increased interest to identify the public health competencies relevant to family medicine. At present there is no agreed-on set of public health competencies delineating the knowledge and skills that family physicians should possess to effectively face diverse public health challenges.

Using a multi-staged, iterative process that included a detailed literature review, the authors developed a set of public health competencies relevant to primary care, identifying competencies relevant across four levels, from “post-MD” to “enhanced.” Feedback from family medicine and public health educator–practitioners regarding the set of proposed “essential” competencies indicated the need for a more limited, feasible set of “priority” areas to be highlighted during residency training. This focused set of public health competencies has begun to guide relevant components of the University of Toronto’s Family Medicine Residency Program curriculum, including academic half-days; clinical experiences, especially identifying “teachable moments” during patient encounters; resident academic projects; and elective public health agency placements. These competencies will also be used to guide the development of a family medicine–public health primer and faculty development sessions to support family medicine faculty facilitating residents to achieve these competencies. Once more fully implemented, an evaluation will be initiated to determine the degree to which these public health competencies are being achieved by family medicine graduates, especially whether they attained the knowledge, skills, and confidence necessary to effectively face diverse public health situations—from common to emergent.

(Am J Prev Med 2011;41(4S3):S251–S255) © 2011 American Journal of Preventive Medicine

Introduction

Events such as severe acute respiratory syndrome, and more recently H1N1, are examples of public health situations faced by family physicians and other primary care practitioners.¹ These events, in conjunction with other public health issues such as vaccine-preventable infections and rising rates of obesity and the associated health challenges, have resulted in an increased interest in the interface between primary care and public health (e.g., the IOM’s consensus study²) and in better identifying public health competencies relevant to family medicine so that family physicians and other primary care practitioners might better appreciate the population-wide perspectives of public health issues. However, at present there is no agreed-on set of public health competencies that

family physicians and other primary care practitioners should attain to better ensure they possess the necessary knowledge, skills, and confidence to effectively face diverse public health situations—from common to emergent. Using an iterative consultative process, the authors developed a set of public health competencies relevant to family medicine and primary care.

The Initial Development Process

This process began with planning for a 1-day, pan-Canadian, family medicine–public health symposium that was held in March 2008. This symposium arose out of discussions at the pan-Canadian Public Health Human Resources Task Force concerning the role of primary care practitioners in Canada’s public health workforce. The primary goals of the symposium were to identify: (1) the public health competencies that family medicine residents should possess at graduation; and (2) the primary care competencies that community medicine residents should possess at graduation. To help address these goals, a presymposium discussion document was prepared by reviewing existing documents to develop an initial competency draft using a “multi-level competency model”

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0749-3797/\$17.00

doi: 10.1016/j.amepre.2011.06.002

developed by the University of Toronto's Department of Family and Community Medicine. The resources accessed and reviewed to inform the preparation of the presymposium discussion document included:

- the College of Family Physicians of Canada's *The Role of the Family Doctor in Public Health and Emergency Preparedness*¹;
- the Medical Council of Canada's undergraduate medical education objectives, particularly the seven addressing "Population Health"³;
- the Royal College of Physicians and Surgeons of Canada's *Objectives of Training* for the medical specialty of community medicine⁴;
- the *Core Competencies for Public Health in Canada* that were developed in partnership with the Public Health Agency of Canada⁵;
- The medical discipline-specific *Minimum Competencies for Medical Officers of Health* (i.e., public health officers) that were developed under the sponsorship of the Public Health Agency of Canada⁶;
- the Accreditation Council on Graduate Medical Education (ACGME) statement regarding the community medicine objectives required in family medicine residency programs⁷;
- the ACGME statement regarding the requirements for residency programs in public health and general preventive medicine.⁸

A search of the literature, coupled with suggestions from individuals consulted, identified several other relevant and informative Canadian,^{9,10} American,^{11–15} British,^{16–18} and Australian^{19–21} publications. These were also reviewed and assisted the development of a draft set of public health competencies relevant to family medicine and primary care.

Four levels of competencies were drafted, following the model developed in Toronto's Department of Family & Community Medicine, which spans *resident-readiness* (expected of all MD graduates), *essential* (expected of all family medicine graduates), *enriched* (achievable by most residents during family medicine residency training), and *enhanced* (achievable only through additional training after the family medicine residency).

Following the review of existing documents and preparation of the presymposium discussion document, the authors identified and used eight themes to guide the development of the draft set of competencies. These eight themes were:

- disease prevention and health promotion;
- infectious disease prevention and control;
- emergency preparedness and response;
- environmental health;

- systems thinking, public health leadership, and management;
- population health assessment;
- policy, planning, communication, collaboration, and advocacy;
- scholar and educator.

Reviewing and Revising the Proposed Draft Competencies

A variety of family medicine and public health educator-practitioner colleagues reviewed and provided feedback concerning the proposed draft set of competencies. The first group of reviewers was the 24 program directors and residents who participated in the March 2008 pan-Canadian Family Medicine–Public Health 1-day symposium. This group included 12 residency directors (six family medicine, six community medicine) and 12 residents (six family medicine, six community medicine) from across Canada. The presymposium discussion document, which included a proposed set of draft competencies, was distributed to the participants for their review prior to the symposium. The draft competencies served as the major item for discussion by the participants during the symposium's plenary and small group discussions. Symposium discussions enabled the authors to further revise the discussion document and proposed set of competencies. This revised draft was then sent to all symposium participants for additional review and feedback, which resulted in the proposal of a detailed set of public health competencies relevant to family medicine and primary care (Appendix B, available online at www.ajpmonline.org).

This detailed set of competencies was presented at the October 2009 Family Medicine Forum, Canada's annual family medicine conference. Feedback received from conference participants suggested further revisions to the competency draft, particularly the need for a more limited, feasible set of "priority" areas to be focused on during residency training, especially because of the limited duration of family medicine residency training programs—being only 2 years in Canada and 3 years in the U.S.

As a result, the authors sought further feedback from interested family medicine and public health practitioner-educators and residents from across Canada to identify a more focused set of priority areas to be emphasized during residency training. These colleagues were asked to rank-order the public health competencies that they considered essential for any graduating family medicine resident. With this advice, the authors identified a priority list of eight competency areas:

- the basic fundamentals of outbreak/emergency preparedness and management;
- office infection control;

- infectious disease reporting and management;
- environmental health exposure reporting;
- public health aspects of immunization;
- public health programs applicable to primary care (e.g., maternal–child health);
- addressing and managing one's *practice as a population* (e.g., developing practice health profiles and using quality assurance to increase the delivery of preventive services);
- the principles and practices of screening (i.e., early detection and treatment) of diseases.

Final Departmental Review and Revision

Public health is only one of 14 competency domains in the University of Toronto's Family Medicine Residency Program's recently developed competency-based curriculum (other domains include child health, women's health, and mental health). To ensure the overall coherence of the 14 proposed sets of competencies, a full review was completed by a diverse group of 35 family medicine leader–educators at a departmental retreat in April 2010. A key finding arising from this review was that only focused, essential competencies could be realistically identified within each of these 14 domains. This resulted in five public health competencies being identified and approved for inclusion in the competency-based residency curriculum, each accompanied by one or more enabling subcompetencies. These five overarching public health competencies are:

- demonstrate an effective approach to disease prevention and health promotion;
- demonstrate an effective approach to infectious disease prevention and control, including outbreaks;
- demonstrate an effective approach to environmental health issues;
- develop and apply the knowledge and skills necessary to assess a population's health;
- demonstrate an effective approach to public communication, collaboration, and advocacy.

This more focused set, with the accompanying enabling competencies and a listing of suggested relevant topics for each, is included in Appendix A. It should be noted, however, that the more extensive complete set of public health competencies relevant to family medicine (Appendix B, available online at www.ajpmonline.org) is expected to continue to serve as the comprehensive listing to complement the more focused set of essential competencies and as the primary listing of the enriched and/or enhanced public health competencies relevant to family medicine and primary care.

Conclusion

The focused set of public health competencies approved by the University of Toronto for family medicine (Ap-

pendix A) has begun to guide its Family Medicine Residency Program curriculum, including resident seminars; family medicine clinical experiences, especially identifying teachable moments that occur during patient encounters; elective public health agency placements; and topics selected for the required resident research project (e.g., the prevalence of chlamydia, a profile of those infected with H1N1 influenza). These competencies will also be used to guide the development of a Family Medicine public health primer that would complement the Association of Faculties of Medicine of Canada's Primer on Population Health developed for medical students,²² and faculty development sessions to support the family medicine faculty facilitating residents in their achievement of these competencies.

Once it is more fully implemented, an evaluation will be initiated to determine the degree to which these public health competencies are being achieved by family medicine graduates, especially whether they attained the knowledge, skills, and confidence necessary to effectively face diverse public health situations—from common to emergent. It is anticipated that the experience gained through the implementation of the proposed set of competencies (and their evaluation), at the University of Toronto and other family medicine residency programs where they are implemented, will provide evidence of the utility and suitability of the proposed competencies and of further revisions that might be warranted.

Publication of this article was supported by the CDC-AAMC (Association of American Medical Colleges) Cooperative Agreement number 5U36CD319276.

No financial disclosures were reported by the authors of this paper.

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- A5. Provide evidence-informed brief contact interventions to reduce the risk of chronic diseases and injuries.
 - A6. Counsel and reinforce protective behaviors.^a
 - A7. Counsel patients in defined risk populations to receive recommended routine screening for cancer.^a
 - A8. Identify families at high risk for developmental and parenting challenges and refer them to public health or appropriate agency for follow-up (e.g., home visiting program, dental health program).
- B. Demonstrate an effective approach to infectious disease prevention and control, including outbreaks
 - B1. Demonstrate routine infection control practices for the care of all patients at all times, including recommended office infection control practices.
 - B2. Demonstrate transmission-based precautions in conjunction with routine practices when patients are suspected or confirmed of being infected with transmissible or epidemiologically significant organisms.
 - B3. Recognize and report cases of notifiable diseases, conditions, and unusual diseases or patterns to public health authorities.
 - B4. Coordinate management of individuals and families with broader public health investigation.^a
 - B5. Describe roles and responsibilities in preparing for and responding to infectious disease outbreaks, and other health emergencies and disasters.
 - B6. Triage patients in an infectious disease outbreak, and other health emergencies and disasters.
 - C. Demonstrate an effective approach to environmental health issues
 - C1. Recognize features of community health determinants, patient history, symptoms, and signs that trigger differential diagnoses that include exposure to an environmental health hazard.
 - C2. Report potential cases to public health authorities for patients or populations who are likely being affected by an exposure to an environmental health hazard.
 - D. Develop and apply the knowledge and skills necessary to assess a population's health
 - D1. Describe how the determinants of health^a affect the health of one's patients and practice population.
 - D2. Describe how a community's profile of determinants of health^a contributes to the occurrence of selected conditions.
 - D3. Discuss a community's health needs considering underlying determinants of health,^a evidence for effective interventions, and existing services.
 - D4. Assess a practice population's status for clinical preventive services (e.g., immunization rates, cancer screening rates, and sociobehavioral risk factors and conditions).
 - D5. Apply evidence-informed practice strategies to improve patient population coverage for preventive services (e.g., routine questions, chart/computer reminders/prompts, patient invitations/recalls).
 - D6. Describe the complementary roles of family medicine and public health in achieving the prevention and control of conditions of public health interest.
 - E. Demonstrate an effective approach to public communication, collaboration, and advocacy
 - E1. Communicate (when indicated) with individual patients, families, and the practice population regarding public health measures that concern their health and care.

Appendix A

Family Medicine Public Health Competency Document

ESSENTIAL COMPETENCIES:

- A. Demonstrate an effective approach to disease prevention and health promotion
 - A1. Assess patient needs for immunization (routine and high-risk patients).
 - A2. Counsel individuals/families to receive immunizations appropriate to their age and risk status.
 - A3. Anticipate, recognize, and report potential adverse events.
 - A4. Assess patients for sociobehavioral risk factors and risk conditions^a in relevant populations.

^aSee below for the detailed listing of suggested relevant topics.

Detailed Listing of Suggested Relevant Topics

Sociobehavioral risk factors and risk conditions:

- hyperlipidemia¹;
- hypertension¹;
- in children¹;
- lifestyle¹;
- physical inactivity;
- sexually transmitted infections (STI)¹;
- smoking cessation¹;
- substance abuse¹.

Protective behaviors:

- lifestyle¹;
- periodic health assessment/screening¹;
- poisoning¹.

Screening for cancer:

- cancer¹;
- periodic health assessment/screening¹.

Public health investigation:

- contact tracing;
- immunization;

- patient education;
- treatment.

Determinants of health:

- education;
- housing;
- SES.

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Appendix

Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.amepre.2011.06.002](https://doi.org/10.1016/j.amepre.2011.06.002).

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