

Responding to the Challenge: Population Health Education for Physicians

Editor's Note: This month, the journal features a series of articles on population health education, a crucial topic in academic medicine today. I asked Dr. Rika Maeshiro to be my guest and write this month's column. She graciously agreed and created the fine essay on population health education that follows. I extend to her my thanks for this and for all her hard work in assembling the articles in this issue and working with Mary Beth DeVilbiss and other members of the journal's professional staff to bring them to print.

—Steven L. Kanter, MD

In his eloquent and inspiring address, *Healing and Heeling*, at the Association of American Medical Colleges' (AAMC's) 2007 Annual Meeting, Daniel D. Federman, MD, senior dean for alumni relations and clinical teaching at Harvard Medical School, commented, "In the overall distribution of medical students' time, we pay too much attention to what is instantly wrong and give too little thought to preventive measures addressed to what is probably wrong or going to be."¹ He challenged medical education to have a "broader emphasis on likelihoods, prevention, or amelioration—coupled with insights from social science—including a focus on the patient's family and by extension the public as a whole."¹ The appeal to improve population health, public health, and prevention education for physicians is not new. Dating back as far as 1855, educators have published their concerns about the inadequate inclusion of hygiene, prevention, and public health—much of what constitutes "population health"—in medical education.² The AAMC's interest in these issues dates back to at least 1939, when the Committee on the Teaching of Preventive Medicine and Public Health was established.³ This theme issue of *Academic Medicine* is devoted to recent strides in that effort.

In the last two decades, a series of reports have been released by national organizations, including the AAMC and the Institute of Medicine (IOM), to improve population health education in medical curricula.^{4–6} The reports are consistent in recommending that all medical students receive training in population health. Together, the reports call for medical students' population

health education to include epidemiology; biostatistics; disease prevention/health promotion; health care organization, management, and financing; environmental and public health; social and behavioral sciences; informatics; genomics; communication; cultural competence; community-based participatory research; global health; policy and law; and ethics.^{4,5} The IOM also recommends that a significant proportion of medical school graduates should be *fully* trained in the ecological approach to public health at the master of public health (MPH) level.⁵ The recent IOM report, *Training Physicians for Public Health Careers*, asserts that all physicians are part of the public health system and recommends adding leadership, public health emergency preparedness, and clinical and community preventive services provisions as required topics in medical student education. The report further recommends that physicians should continue training in these topics through the continuum of physician education, regardless of specialty.⁶ To respond to these calls for increased public health training for all physicians, the IOM recommends that models be developed for integrating public health principles and practice into physician education at undergraduate and graduate levels and that each residency program identify and include public health concepts and skills that are relevant to the practice of that specialty.⁶

Has medical education responded to these reports and recommendations? The number of medical schools that offer their students the opportunity to complete an MPH has more than tripled since the mid-1990s. Preliminary review of unpublished data from the Liaison Committee on Medical Education Annual Medical Survey, Part II, show that some topics, such as *health care delivery systems* and *prevention and health maintenance*, have been required curricular topics in 80% to 98% of schools for the last 20 years. On the other hand, topics such as occupational health and health policy development are required in fewer than 70% of schools currently. Preliminary review of graduation questionnaire data reveals

that recent fourth-year medical students are more satisfied currently with their *health promotion and disease prevention* education (more than 80% believed that time devoted to the topic was appropriate) compared with 20 years ago (only 40% felt that time devoted to *preventive care* was appropriate). Still, fewer than 60% of current graduates feel that time devoted to health policy, occupational medicine, and, ironically, health care systems, is appropriate.⁷

Whereas these data may represent very general trends in population health education at U.S. medical schools, many of the articles in this issue of *Academic Medicine* provide a sampling of institutional efforts to address this important issue. In 2003, seven medical schools were awarded one-year grants through the cooperative agreement between the AAMC and the Centers for Disease Control and Prevention (CDC) to become Regional Medicine–Public Health Education Centers (RMPHECs). The seven schools were required to partner with a local and/or state health agency to improve public health/population health education for their medical students. In 2006, a new cycle of funding became available, and 11 medical schools (including two that had been part of the original seven RMPHEC "pilot" schools) were awarded funds to pursue "the full integration" of population health into their curricula, once again through collaborations with their public health colleagues. These 11 schools are currently in their third year of funding. A new opportunity to extend this program to graduate medical education (GME) programs became available in late 2007. By the publication date of this issue, we are anticipating that at least six residency programs will be designated as RMPHEC–GMEs. Information about all of the RMPHEC schools is available on the AAMC Web site (<http://www.aamc.org/members/cdc/aamcbased/regionalcenters.htm>).

Six of the 16 schools that have participated in the RMPHEC program have contributed articles to this theme issue, describing the different strategies employed at their schools to integrate population health across their

curricula, a strategy that targets all of their medical students: Case Western Reserve University School of Medicine; Harvard Medical School; Stanford University School of Medicine; The Brody School of Medicine at Eastern Carolina University; University of New Mexico School of Medicine; and the University of Rochester School of Medicine & Dentistry. Some, like the Brody School of Medicine, have strategically embedded population health content and skill acquisition into existing courses; others, like Harvard, have developed blocks of independent teaching time devoted to these topics to give population health an identity. Case Western represents a third model, which resembles a hybrid of these two approaches. In the course of a curricular reform initiative at that institution, population health became the focus of the first of six “blocks” that comprise the first two years of medical school, and it was integrated through the remaining five. Stanford, University of New Mexico, and University of Rochester highlight the experiential learning components of their population health curricula. At Stanford and Rochester, students have opportunities to apply population health skills to improve the community. At New Mexico, students applied their skills to improve the health care delivery system by affecting hospital policy.

Two institutions describe aspects of their MD–MPH programs, which meet the needs of future physicians who have career interests in population health and are seeking the full training in the “ecological approach to public health at the MPH level” noted by the IOM.⁵ The Macy Scholars Program at the Columbia University Mailman School of Public Health provided medical students at six medical schools in New York City the opportunity to pursue an MPH. The article by Stellman et al provides an evaluation of that seven-year program. The article by Harris et al describes the development of an MD–MPH program at the University of North Carolina at Chapel Hill, and it also provides an assessment of courses that were initially developed specifically for medical students who are pursuing MPH degrees.

The presence of population health across the continuum of medical education is represented in this collection by two GME programs at very different points in

their history. The Montefiore Medical Center’s Residency in Social Medicine has a more than 35-year history of public health and community engagement. The Dartmouth–Hitchcock Medical Center’s Leadership Preventive Medicine Residency, on the other hand, was established in 2003. Strelnick et al, from Montefiore, and Foster et al, from Dartmouth, describe their institutions’ approaches to integrating population health training across multiple specialties.

To provide broader context, several articles in this issue address the importance of population health from perspectives outside of the confines of U.S. medical education. Authors from Canada and the CDC, and a proponent of undergraduate (college-level) public health education, each provide their views on the opportunities available to enhance population health education for physicians. Finally, Duke University Medical Center contributes an overview of an entire academic medical center’s recent commitment to population health across their research, service, and educational missions.

The last time *Academic Medicine* devoted an issue to the topic of population health was the July 2000 supplement.⁸ David Satcher, MD, PhD, who was the U.S. Surgeon General and Assistant Secretary for Health at the time, stated in his foreword to that issue:

As Surgeon General, I have established a priority to move this country toward creating a significantly more balanced community health system. Such a system must include emphasis on health promotion, disease prevention, early diagnosis, and universal access to quality care. . . . The link between individual medical care and treatment and population-based health care is essential if we are to provide the highest quality health care possible to the entire U.S. population.^{8, 51}

A little less than eight years later, our health system does not yet adequately emphasize prevention or universal access, and events ranging from the attacks of September 11, 2001, the implementation of “pay for performance” initiatives, and the heightened recognition that health systems are likely to confront pandemic influenza in the future emphasize the need for physicians to be more effective practitioners of population health and better-informed members of the public health system.

Have we made progress in educating future physicians to address these challenges? The articles included in this theme issue give us reason for hope and ideas for future consideration. Students who have benefited from the innovations described here will be better prepared to answer Dr. Federman’s call:

I believe we should enlist some medical students as agents of change, committed to designing a system of care that is equitable, cost-effective, prevention-oriented, universal, and thus moral. I suggest that the students should have course work, summer experiences, projects, an activist focus, and consistent mentoring. . . . And I believe that this rich and activist undergraduate experience should lead to graduate medical education that prepares these students for leadership.¹

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