Public Health and Medicine
Where the Twain Shall Meet
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Introduction

Public health and medicine approach the challenge of health and health care from distinct, complementary perspectives (Table 1). In medicine, the focus is on the individual patient, within the context of family and community. In public health, the focus is on the health of populations, with the expression of illness found in the lives of individuals. Medicine draws mainly on the biological sciences, with secondary emphasis on quantitative sciences, physics, chemistry, and parts of engineering. Public health depends on a spectrum of disciplines centered in the quantitative and social–behavioral sciences, and has its origins as much in engineering and environmental sciences as in biological sciences. Public health stresses the prevention of disease, while medicine deals with the prevention, diagnosis, and treatment of individuals. Medication, surgery, and other forms of individual intervention are the principal tools of the medical clinician. Public health employs a wide array of social and community interventions ranging from immunization campaigns to urban design in order to preserve and protect health. In the U.S., medicine is grounded in private enterprise, while public health is associated with public sector and regulatory responsibility.

Despite these differences in perspective, a moment’s reflection reinforces the continuity and overlap between the concern with populations of public health and the individual responsibility of medicine. For ample historical and practical reasons, education in public health and in medicine has proceeded much more in parallel than by intersection. Today, however, numerous initiatives are bringing the principles, values, experience, and analytic perspectives of public health into the daily practice of medical education. These range from clinical cases to field experiences and from brief learning modules to integrated degree programs, and they are exemplified by the array of papers gathered in this supplement to the American Journal of Preventive Medicine.1–31

Public health matters to medical care and therefore to medical education in at least six ways:

1. Epidemiology, the core discipline of public health, is essential to understanding the cause and distribution of disease. Without some grounding in the quantitative disciplines of biostatistics and epidemiology, no physician can hope to independently and sensibly interpret the medical literature, or to apply it rationally to an individual patient. Dealing with uncertainty and probabilistic reasoning is as essential to sound medical care as it is to health policy and public health practice.

2. Public health teaches the influence of environmental, nutritional, social, and behavioral factors on health, illness, recovery, and wellness. Understanding the etiology of disease and the optimal management of patients depends on a comprehensive appreciation of the multiple origins of illness, including those traditionally emphasized in public health. Integrative explanations of illness that embrace genetic, molecular, biochemical, and physiological factors with behavioral, social, nutritional, and environmental factors require the joint perspectives of medicine and public health.

3. The physician who appreciates the role and potential for public health interventions—public education, social campaigns, ordinances and laws, standards and regulations, surveillance and preparedness—has a deeper understanding of the conditions that preserve health, of the primacy of disease prevention, and of the interfaces between personal medical care and community health protection.

4. Public health emphasizes cultural sensitivity (similarities and differences in values, mores, and practices), community engagement, and health literacy, which have a direct bearing on the ability of patients to participate in their own health care and to protect their family’s health.

5. Public health stresses systems thinking, an engineering concept that explains observed performance in terms of connected parts that interact in a variety of interdependent ways. The same way of thinking bears directly on patient safety and the quality of medical care, and it provides a way of describing and understanding the performance of everything from
an individual medical encounter to the health system as a whole.

6. Public health exposes physicians to exciting and fulfilling career opportunities in such diverse areas as global health, disaster response, health policy, and environmental health. Apart from those who will choose to concentrate in a public health field, such as epidemiology, general preventive medicine, or occupational health, many practitioners in such fields as general and specialty medicine, emergency medicine, pediatrics, family medicine, obstetrics and gynecology, ophthalmology, and general surgery will find rewarding opportunities for part-time engagement in one or another aspect of population health. In analogy to Clausewitz’s observation that “war is merely the continuation of policy by other means,” many physicians will find that public health is the continuation of medicine by other means, potentially affecting millions of individuals at a time.

The examples in the papers in this supplement are part of a recognized global need for greater interprofessional educational experience across medicine, nursing, and public health. To be successful, interprofessional education must be matched to interprofessional practice. An IOM study currently underway is examining ways to integrate public health and primary care (iom.edu/Activities/PublicHealth/PrimaryCarePublicHealth.aspx).

At this stage, much remains to be learned about the optimal ways to organize and conduct interprofessional educational experiences, identify the most successful pedagogic methods, define and assess professional competencies, link to interprofessional practice, and measure ultimate effects on clinician and patient experience and health system performance. We can, however, take encouragement and learn from the many creative initiatives that incorporate public health into medical education, as described in this supplement to the American Journal of Preventive Medicine.

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References


