

# Perceptions of Public Health: The Challenges of Public Health Education Integration

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## Abstract

Public health seeks to protect and improve the health of communities through the promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases. It is a population-focused science that works primarily with prevention strategies, policies implementation, service administration, and research. While this field seemingly contrasts with the field of clinical medicine—in which patients are treated on an individual level after becoming sick or injured—public health concepts regarding prevention are critical knowledge areas for any health professional. In recent years, public health courses have been incorporated into degree requirements for a variety of health-related professions; however, several studies have indicated that health professions students have negative attitudes toward these courses for a variety of reasons. Given the importance of public health as a crucial component of health profession education, it is important to understand how students' perceptions of public health education are shaped to ensure effective integration.

**Keywords:** public health education, perceptions, health professions education, public health education integration, public health medical school education

## 1. Introduction

The birth of public health can be traced back to social reform and advancements in disease management on multiple geographic fronts in the nineteenth century; the field is founded on data-driven decision making, social justice and health equity, and preventive care at the population level rather than curative care at an individual level (Koplan et al., 2009). Winslow (1920), who served as the first professor in the Department of Public Health at Yale, comprehensively defined public health in the twentieth century as:

... the science and art of preventing disease, prolonging life and promoting health and efficiency through organized community effort for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and for the development of the social machinery to insure everyone a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birthright of health and longevity. (pp. 183-191)

An alternative definition provided by the Institute of Medicine (IOM) in 1988 highlights the intimate relationship between public health and human rights ethics; the IOM stated that the goal of public health is to promote the welfare of communities by “assuring the conditions in which people can be healthy” (Koplan et al., 2009). While there are numerous definitions of public health, at its most fundamental level, public health is “the science of protecting and improving the health of people and their communities” (What is Public Health?, n.d., para.1). Traditional public health efforts include health promotion and education, injury prevention, disease surveillance and detection, emergency response, and the creation of evidence-based public policy. Additionally, scholars—recognizing the intrinsic link between public health and ethics—increasingly note ways in which public health approaches can be used to ensure the provision of basic human rights. This paper aims to examine the challenges associated with the integration of public health education into other health professions curricula, specifically focusing on students' negative attitudes toward public health courses as an obstacle to integration efforts.

## 2. Public Health: Increasing Demand Meets Underappreciation

Recent bioterrorism attacks, natural disasters, increasing health disparities, and the emergence of drug-resistant bacteria have underscored the need for a stronger public health system in the United States (Maeshiro et al., 2010). To achieve such a goal requires a critical look at the professionals who work as part of the public health system. Unfortunately, assessments have indicated that health professionals are not adequately prepared to address modern public health challenges (Frenk et al., 2010).

Tracing the path from past public health concerns to contemporary public health challenges in the United States illustrates the country's history of transitioning from a high burden of communicable disease—*infectious diseases that can be transmitted between sources*—to a high burden of non-communicable disease—*medical conditions not caused by an infectious agent* (A. Boutayeb & S. Boutayeb, 2005). This transition was catalyzed by post-World War II medical milestones such as the introduction of vaccinations, use of antibiotics, and community health improvements (A. Boutayeb & S. Boutayeb, 2005). Unlike in the early 1900s when the prevalence of communicable diseases required physicians to work clinically at the individual level, the United States is now faced with an “epidemic of preventable chronic diseases” that is affecting large swaths of the population (Maeshiro et al., 2010, p. 211). As the trend of increasing non-communicable diseases—often long-term conditions—continues to be observed, it has become glaringly apparent that healthcare workers—physicians, nurses, physical therapists, and epidemiologists among others—must be able to work together to provide “a seamless web of health services” (Frenk et al., 2010, p. 1943). Unfortunately, research has revealed that a “territorial division of work” seen among various health professions is contributing to “hyperspecialization”—a trend working in direct opposition to teamwork (Frenk et al., 2010, p. 1925).

A specific example of this territorial division of work can be seen through an examination of the relationship between public health and medicine. The World Health Organization (WHO) has emphasized the need for both individual-level and medical community-wide development of public health competencies in order to achieve better health outcomes. Acknowledging the marked separation between public health and traditional medical training, the WHO has called for medical students to be educated about population-level health needs (Gurpinar, Musal, Aksakoglu, & Ucku, 2005). Although this separation dates back to the nineteenth century, it is still common in modern society among some health professionals (Gillam & Bagade, 2006). For instance, many medical students view public health as being unimportant to their career paths (Stone, 1999). This perception can be best understood by considering the nature of public health educational objectives—public health traditionally focuses on populations as opposed to the individual curative-care that is practiced in medicine (Stone, 1999). Moreover, the separatist mentality is strengthened by the structural design of training programs for both clinical and public health practitioners; there are two distinct tracks that tend to shy away from opportunities to “cross disciplinary boundaries” (Stone, 1999, p. 9).

The need to integrate medicine and public health was also part of the 1910 Flexner report, which prompted initial reforms in medical education using an argument built on a strong foundation of public health-oriented concepts (Maeshiro et al., 2010). Flexner advocated for physicians that met the needs of the public in terms of training, quality, and quantity. Like the IOM in 1988, he, too, highlighted the ever-present relationship between public health and ethics, maintaining that physicians have certain societal responsibilities which include the prevention of disease and promotion of health. Flexner also made the case that bridging the fields of medicine and public health would establish a symbiotic relationship (Maeshiro et al., 2010). While medical education reform efforts catalyzed by Flexner's report set the stage for the integration of public health education, they did not go far enough to create a sufficient merging of the two disciplines.

The realization that contemporary health challenges can benefit from—and arguably require—the integration of public health and clinical skills has prompted calls for continued reform of medical school curricula. Stone (1999) argues that at its most basic level, the mission of medicine requires a population perspective “whether it is appreciated or not” (p. 13). Drawing from Stone's assertion, individual-level development (i.e., health professionals taking courses to become proficient in public health skills and strategies) would contribute meaningfully to community-level development. Interprofessional education leads to interprofessional collaboration which is not only necessary for ensuring quality health care but has also demonstrated improvements in patient health outcomes and efficient use of diverse healthcare team members (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). Changes are being made to medical curricula to reflect the importance placed on public health skills. Furthermore, measures are being taken to determine the effectiveness of such curriculum adaptations. For example, the annual survey part II of the Liaison Committee on Medical Education (LCME) 34 and the AAMC Graduation Questionnaire 20 have been modified to include questions which seek to evaluate students' experiences with undergraduate medical education incorporating public health elements

(Maeshiro et al., 2010).

Scholars have also documented the need for integrating public health education with other health professions. Within the context of emergency preparedness, Markenson (2005) states that educational “benchmarks and standards [must] be consistent across health care disciplines and public health” in order to guarantee a cohesive approach to disaster preparedness (p. 517). To achieve adequate preparedness, Markenson (2005) suggests that the “silo approach to preparedness”—frequently cited in public health literature—must be replaced with “clear connection[s] between departments of public health and all other health care entities” (p. 523). While Markenson (2005) makes this claim specifically with regard to emergency preparedness, this idea is malleable; the need for more interconnectedness between public health and other health professions fields has been increasingly documented.

In addition to the acknowledged need for public health education integration, an interesting trend observed in public health graduate programs further complicates the topic of modern public health education. New data has shown that over the last 13 years, there has been sustained growth in the number of students receiving undergraduate degrees in public health (Leider et al., 2015, p. 111). However, students holding undergraduate degrees in public health comprised less than 6% of U.S. citizens applying to graduate schools in public health (Leider et al., 2015). These data indicate that few public health undergraduates choose to continue their public health education at the graduate level (Leider et al., 2015). This trend prompts several questions. What are undergraduates with public health degrees doing after graduation? Moreover, if public health undergraduate students are not pursuing graduate education for public health, who is? Finally, if students are able to matriculate into graduate programs for public health from non-public health undergraduate programs, what then is the unique value provided by undergraduate public health programs?

Assessing the distinctive value requires an understanding of the outcomes of undergraduate public health education. Notwithstanding the growing recognition of the importance of public health both as its own field and as a field complementary to other health professions, there are several obstacles to the integration of undergraduate public health education into other health professional programs (Gillam & Bagade, 2006). These tensions naturally pose questions about what health professions students think of public health and how those perceptions may influence the way they benefit from PH education. While there is a limited body of literature documenting such perceptions among students in the United States, international studies that have focused on similar questions provide insight into public health education among students from a variety of disciplines. The remainder of this paper will layout current strategies being implemented to improve public health education in the United States, highlight key international studies on perceptions of public health, and discuss areas for future research that could contribute to filling the current gap in the literature.

### *2.1 Changes in United States*

Although its introduction into academia as a unique field has been relatively recent compared to other health professions, the need for public health has been established and hence is being increasingly incorporated into the long-established fields of other health professions. To address the need of public health integration into non-PH curricula, the Association of American Colleges and Universities launched a ten-year campaign for undergraduate liberal education called Liberal Education and America’s Promise (LEAP). LEAP’s outcomes “support the integration of public health education into general and liberal education” and seek to produce an “educated citizenry” (Albertine, 2008, p. 255). LEAP searches for intersections between the arts and sciences and professional schools and finds connections between campus perspectives and global views (Albertine, 2008). Evaluating the impact of LEAP, Albertine (2008) suggests that an integrative approach to programming could be the most effective and efficient solution for preparing students for health profession careers in a liberal arts or general education setting.

A related project—The Educated Citizen and Public Health (ECPH) project—was generated in 2003 in response to a call from the Institute of Medicine asking for “higher education to address human health and the great questions of human sustainability” (Albertine, 2008, p. 255). The ECPH project seeks to go beyond merely training more health professionals in public health; it is designed to “educate future citizens” (Albertine, 2008, p. 255). If the ECPH project is to achieve its mission, higher education will have to expand into uncharted territory—according to Albertine, this territory includes general education, the arts and science disciplines, and liberal education. There is an increasing understanding that meaningful change in skills and attitudes requires “integrative and experiential programs” (Albertine, 2008, p. 256). Interdisciplinary programs for students provide unique opportunities for collaboration that could result in innovative approaches to research and practice (Albertine, 2008). At full fruition, these changes are predicted to influence undergraduate education for all fields of healthcare (Albertine, 2008).

In addition, the Association of American Medical Colleges is reevaluating methods for educating medical students (Riegelman, 2005). Instead of focusing on only traditional medical course work, increasing value is being placed on competencies such as analytical skills, policy development skills, cultural competency, financial planning and management, leadership, systems thinking and the inclusion of population health for medical students (Riegelman, 2005). This trend could potentially catalyze the growth of undergraduate public health curriculum because such courses provide students preparing for health professions with multidisciplinary knowledge and skill sets (Riegelman, 2005). However, these changes are being met with resistance. Stone notes that even medical school professors are skeptical of the benefits of public health concepts being taught as part of the curriculum. Some teachers find public health to be “an inefficient use of scarce resources” while others simply believe public health can function without clinical medicine (Stone, 1999, p. 11).

In November of 2006, public health, arts and sciences, and clinical health professions educators collaborated at the Consensus Conference on Undergraduate Public Health Education where three courses were recommended as fundamental components of the public health curriculum: Public Health 101, Epidemiology 101, and Global Health 101 (Riegelman, 2005). These courses are central to the achievement of the goals outlined at the Alma-Ata Conference in 1978 including “health for all” (Gurpinar et al., 2005, p. 2). Thus, including primary healthcare training into undergraduate coursework can help to “reinforce the primary function” of ensuring universal social protection of health (Frenk et al., 2010, p. 1933).

### *2.2 International Studies on PH Perceptions*

As previously mentioned, studies conducted in the U.S. regarding public health education curricula are scarce. However, a Canadian study focusing on the perceptions and attitudes of medical students toward their undergraduate medical public health curriculum indicates a systemic breakdown of public health education (Tyler et al., 2009). This study noted that undergraduate medical education courses included public health courses covering “epidemiology, biostatistics, outbreak response, determinants of health, evidence-based medicine, ethics, cultural competencies, professionalism and the patient-doctor relationships” (Tyler et al., 2009, p. 1307). However, these public health courses were not adequately integrated into the medical science curriculum, further highlighting the higher value that medical professionals placed on acute, individual care versus population-based health care (Tyler et al., 2009, p. 1307). This separation of disciplines often left students “confused about the role of public health in medicine,” which contributed to the students’ development of negative feelings toward public health coursework (Tyler et al., 2009, p. 1311). Four prevailing themes regarding public health curricula were identified in the study, “poor educational experiences in public health courses, lack of positive exposure to public health specialists, emphasis on statistics and epidemiology, and negative attitudes towards public health topics” (Tyler et al., 2009, p. 1308).

The problems with public health curricula showed that the issue was systemic; current curricula included a “mismatch of competencies [relating to] patient and population needs; poor teamwork ... narrow technical focus without broader contextual understanding; episodic encounters rather than continuous care ... and weak leadership to improve health-system performance” (Frenk et al., 2010, p. 1923).

In 2003, a cross-sectional survey was conducted in the United Kingdom to evaluate the effectiveness of public health curriculum in a medical school setting (Gillam & Bagade, 2006). Questionnaires were sent to all twenty-eight heads of academic departments of public health in UK medical schools and included questions about “administration, course contents, the teaching methods, staff involved in teaching, assessment of students, quality assurance of teaching, and course material” (Gillam & Bagade, 2006, p. 431). Seventy-six percent of responding medical schools claimed to have integrated public health and clinical teaching to some extent while 19% claimed to be fully integrated (Gillam & Bagade, 2006). Self-directed learning was reported in 70% of schools as the proportion of course instruction in lecture format continues to decrease (Gillam & Bagade, 2006). The survey noted one professor’s response, “Every student who goes through this medical school should know something about public health” (Gillam & Bagade, 2006, p. 433). Another said, “The big question is how much public health teaching do students actually need? Most students do not remember any of their public health teaching and only come to use the concepts much later” (Gillam & Bagade, 2006, p. 433).

This UK survey study points out several structural flaws that limit the effectiveness of public health education, with the first being that there is a lack of standardization in “curricular content, teaching methods and resources used” (Gillam & Bagade, 2006, p. 431). Another limitation is that teachers are inadequately incentivized to prioritize long-term teaching over research. Lastly, there is a documented need for continued evaluation of “problem-based public health learning” with the intention of successfully integrating such learning with clinical teaching in the future (Gillam & Bagade, 2006, p. 431).

### 3. Conclusion

While the goal of integrating public health education into non-PH health professions education has both merit and promise, achieving such an objective is challenging for a variety of reasons. The population-level orientation and compartmentalization of public health teaching both act as barriers to integration; however, the attitudes of non-PH students seem to be the biggest detriment to this effort. The value of public health competency is not being adequately communicated to clinical professional students. The inextricable link between public health and clinical practice cannot be underestimated nor should it be seen as obvious—existing literature contradicts the latter. According to Stone (1999), the best approach to surmounting misconceptions about the value of public health in clinical health professions is practical demonstrations of the relationship between fields.

Studying the diffusion of public health knowledge from the perspective of healthcare trends, public health frameworks used in health professions, students' attitudes toward public health coursework, and the ineffectiveness of current curricula gives valuable insight into improving public health education. While international studies can be insightful in analyzing public health perceptions, there is a significant gap in the research available specific to the United States. Additionally, it would be useful to have access to data comparing the public health perceptions of students at a liberal arts school to the perceptions of students in applied professional programs. Because public health as an academic field is new and still relatively malleable, studying perceptions of public health may be helpful in working to ensure a more competent and efficient health workforce in the future.

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