

Chapter 2

Public Health Workforce

2.1 Public Health Workforce Defined

Without a competent workforce, a public health agency is as useless as a new hospital with no healthcare workers. (Gebbie et al. 2002, pp. 56–57)

2.1.1 *Who is the Public Health Worker and Where Do They Work?*

The public health mission, services, and system described in Chap. 1 emphasized the complexity and multidimensional nature of the public health field. Ciofi et al. (2003b) stated:

“The fact that the public health workforce is not a single profession, but rather a fabric of many professions dedicated to a common endeavor creates challenges to any singular approach to workforce development”. (p. 451).

Ciofi et al. (2003b) further state that “the term, ‘public health workforce’ is not well understood or defined” (p. 452). The Institute of Medicine (IOM 2003) defined a public health professional as “a person educated in public health or a related discipline employed to improve health through a population focus” (p. 1). The US Department of Health and Human Services implemented an even more broad definition by stating that public health workers are “...those responsible for providing the essential services of public health regardless of the organization in which they work” (DHHS 1994, p. 4).

In 2000, the Health Resources and Services Administration (HRSA 2000) estimated that the size of the workforce was 448,254 (or approximately 160 public health workers per 100,000 population) and that these professionals were supplemented

by 2,864,825 volunteers (Gebbie et al. 2002; Tilson and Gebbie 2004). Tilson and Gebbie (2004) accurately caution that this estimate is just that—an estimate—as the data were compiled from several data sets and reports that were collected for various purposes over different time periods. These public health workers are primarily employed by the following entities: federal agencies, state agencies, local public health agencies, and schools of public health (Gebbie et al. 2002). The above estimate approximated that “over half of all public health workers have at least a college education” (Tilson and Gebbie 2004). Gebbie et al. (2002) further considered defining the public health worker by the worker’s education or profession, the place of employment, or the focus on the type of work conducted. For those interested in reading a comprehensive historical review of the efforts to enumerate the public health workforce, I refer you to the work of Merrill et al. (2003).

Box 2.1 lists the occupation titles for public health professionals as identified in 2000. Not to minimize the work of HRSA in classifying the public health profession by title, but this box only emphasizes for me the innate challenges in defining and enumerating the public health workforce. Is your position listed in Box 2.1?

Box 2.1 Public Health Workforce Titles, 2000.

- Health administrator
- Administrative/business professional
- Attorney/hearing officer
- Biostatistician
- Clinical, counseling, and school psychologist
- Environmental engineer
- Environmental scientist and specialist
- Epidemiologist
- Health economist
- Health planner/researcher/analyst
- Infection control/disease investigator
- Licensure/inspection/regulatory specialist
- Marriage and family therapist
- Medical and public health social worker
- Mental health/substance abuse social worker
- Mental health counselor
- Public health dental worker
- Public health educator
- Public health laboratory professional
- Public health nurse
- Public health nutritionist
- Public health optometrist
- Public health pharmacist
- Public health physical therapist
- Public health physician
- Public health program specialist

- Public health student
- Public health veterinarian/animal control specialist
- Psychiatric nurse
- Psychiatrist
- Psychologist
- Public relations/media specialist
- Substance abuse and behavioral disorders counselor

Source: Health Resources and Services Administration (2000).

2.1.2 Issues with Defining the Public Health Workforce

The complexities of defining the public health workforce are expected based on our earlier discussion about the public health system. According to Gebbie et al. (2002):

Achieving healthier communities requires collaboration with educators, child welfare workers, adult employment counselors, transportation experts, recreation specialists, public safety engineers, housing planners, and emergency responders, among others. (p. 57)

I refer you to Fig. 1.1, Centers for Disease Control and Prevention (CDC)’s rendition of the public health system. Note the complexity and interrelationships among the entities. In addition, recall that “public health is, what we, as a society do collectively to assure the conditions in which people can be healthy” (IOM 1988, p. 1). Furthermore, Gebbie et al. (2002) comment that in order to accomplish the public health mission, as stated by the IOM, “public health practice is at its heart interdisciplinary, weaving together the various skills, knowledge, attitudes, and worldviews of the multiple professions involved” (p. 57). The very foundation of this field is rooted in multiple disciplines and professions that strive to assure healthy populations via a wide breadth of bodies of knowledge and skills. Hence, how could there be conclusive, select categories of occupations that comprise the public health workforce? Short answer: there cannot be as one runs the risk of leaving out a key occupation or professional. The remainder of this section highlights the inherent challenges with defining the public health workforce.

Tilson and Gebbie (2004) provide more detail regarding the public health workforce by stating:

...the workforce is composed of those who work for official public health agencies at all levels of government, community-based, and voluntary organizations with a health promotion focus, the public health-related staff of hospitals and healthcare systems, and a range of others in private industry, government, and the voluntary sector. This workforce includes nurses, sanitarians, educators, administrators, physicians, nutritionists, social workers, engineers, and many other professionals, a large group of persons working in the field as aides, extenders, community health workers, and, of course, vital administrative, support, and clerical staff and a remarkable complement of volunteers. (p. 341)

Again, this narrative is not an inclusive definition but one that demonstrates the breadth of the field. I will quote extensively from Tilson and Gebbie’s (2004) article

because I think they do an excellent job in highlighting the complexity of the task of defining the public health workforce:

Can being a public health worker be defined by the place or the nature of the employer? All workers in government health-related agencies? Would this include the neurosurgeon working at Walter Reed? Or the geriatrician in the Veteran's Administration? Does this mean "working in a public health agency?" Would it then include anyone working in an official agency of federal, state, or local government that has public health protections or advancement in its title, mission description, or name? Would this include all persons working within the Federal Department of Health and Human Services (HHS), for example? All bench researchers at the National Institutes for Health (NIH)? Program analysts at the Administration of Aging? Perhaps at least if the employers called themselves a Health Department? Does it include all staff of such "public health departments," or is it defined, rather, by the nature of their work? Would it include the person who cleans the halls? Patrols the parking garage? Sits at the front desk...? (p. 342)

Should the definition of the public health workforce "include professionals, technicians, and a range of support staff and laborers, many of whom do not have any specific public health expertise..." (Tilson and Gebbie 2004, p. 342)?

Is the public health workforce defined by the credential or education level one attains? Tilson and Gebbie (2004) ask,

Do all persons having a Masters Degree in Public Health, or any degree from a school of public health or public health-specialized educational program count? Does the pediatrician, practicing excellent community-based primary care medicine, get included in the public health workforce if he/she has an MPH (but not included if they do not?) (Tilson and Gebbie 2001). The two largest groups in local public health practice, public health nurses and sanitarians, meet most agency job specifications with education at the baccalaureate level, without an MPH. Aren't they a part of the public health workforce? (pp. 342–343)

I think these questions that Tilson and Gebbie (2004) raise meet the mark in terms of painting a picture of the dilemma in defining the public health workforce. Think about your first or current public health position or your public health internship—look at those experiences via the questions raised here. I am sure you were practicing public health but was the organization in which you were practicing public health fall into a nice, neat category? Maybe, maybe not. Public health looks different in different communities. I said it before, "one size does not fit all" in public health! Based on the community's resources, infrastructure, political environment, etc., the public health system will be comprised of different partners who may operate with different priorities and timelines. Never mind the challenges presented by defining the public health workforce, some communities lack a public health system completely! We discuss standardizing public health practice in Chap. 5.

2.1.3 *Plotting a Course*

Public health is everyone's business.

(IOM, *The Future of the Public's Health in the Twenty-first Century* 2002).

The IOM released a series of reports on the state of the nation's public health system and raised a national call to action to address not only the public health system as a

whole but also specifically the preparation of the public health workforce. The first report, *The Future of Public Health* (1988), was a “wake up call” in that the IOM stated “...that this nation has lost sight of its public health goals and has allowed the system of public health activities to fall into disarray” (p. 1). The report also noted a concern regarding the lack of preparation of the public health workforce to address the inevitable social, political, economic, environmental, and technological challenges facing the public health field (IOM 1988). Furthermore, the report states “...that we have slackened our public health vigilance nationally, and the health of the public is unnecessarily threatened as a result” (IOM 1988, p. 2). Certainly, no one working in the public health field meant for the public health system to operate as a dysfunctional system or intentionally put the health of the public at risk but this serious language and accurate observations needed to be acknowledged, in order for the problems to be addressed. Fortunately, the IOM, in addition, to its call to action, also provided the nation with a blueprint of directives on how to improve this urgent state of affairs. Briefly, there are:

...three basic recommendations dealing with:

- the mission of public health,
- the governmental role in fulfilling the mission, and
- the responsibilities unique to each level of government. (IOM 1988, p. 7)

The remainder of the recommendations are concerned with the following areas:

...statutory framework; structural and organizational steps; strategies to build the fundamental capacities of public health agencies—technical, political, managerial, programmatic, and fiscal; and education for public health. (IOM 1988, p. 7)

I refer the reader to the IOM’s 1988 full report on *The Future of Public Health* for additional details on how to address these recommendations.

The second report, the *Future of the Public’s Health in the Twenty-first Century* (2002), provided greater detail on the roles and responsibilities of organizations and agencies in the public health system and the public health workforce, as they pertain to the Essential Public Health Services (EPHS). This report specifically noted key public health agencies in the public health system as including community organizations, the health-care system, academia, private industry, and the media and that in order to meet the challenges of public health, a collaborative approach was required (IOM 2002).

To assist in this effort, the National Public Health Performance Standards (NPHPS 2013) developed objectives and an evaluation plan by which a public health system could analyze their progress in achieving the ten EPHS. Specifically,

NPHPS helps health departments identify areas for system improvement and strengthen state and local partnerships. Using the NPHPS assessment can help ensure that health agencies can respond effectively to both day-to-day public health issues and public health emergencies. The Standards can:

- Improve organizational and community communication and collaboration
- Educate participants about public health and the interconnectedness of activities
- Strengthen the diverse network of partners within state and local public health systems
- Identify strengths and weaknesses to address in quality improvement efforts
- Provide a benchmark for public health practice improvements. (NPHPS 2013)

The NPHPS initiative helps to identify who is needed to conduct the work to help achieve one or more of the EPHS. Tilson and Gebbie (2004) explain it this way:

Thus, the journalist working in the local broadcast media becomes part of the public health workforce when covering the “health beat.” The pediatrician with (or without) an MPH counts when providing well-child care and immunizations, and is filling the role as a partner in the public health system, but does not count when taking care of a baby’s ear infection.... (p. 343)

Thus, this discussion alludes to the possibility that professionals may be considered part of the public health system only when their work pertains to the public health mission and would not be consistently considered a public health professional. Should this individual be counted as part of the public health workforce? It is also important to note that there is not complete consensus on defining a public health worker by their work as it relates to the ten EPHS (Rowitz 1999). This poses yet another layer to the complexity of defining who is a public health worker and where do they work?

Another beacon along this challenging path of defining the public health workforce and assuring their preparedness is provided by the *Healthy People (HP) 2020* initiative, introduced in Chap. 1. HP 2020 also considers the significance of assuring a competent workforce by including a national objective that addresses public health infrastructure. Similarly, the predecessor to HP 2020, known as HP 2010, also addressed this issue by proposing that a set of uniform core competencies for public health be developed and implemented among the curriculum of professional schools, as well as local, state, federal, and tribal agencies (HP 2010 2013). In addition, HP 2010 also proposed developing continuing education on essential services to workers (HP 2010 2013). These objectives are comprehensive and we revisit them in further detail in Chap. 3 as they pertain to public health education. Yet, the part of the HP 2020 objective that applies to this discussion is the promotion of a “capable and qualified workforce” that will be able to prepare for and respond to health threats on a local, state, and national level (HP 2020 2013). How communities are preparing their workforce varies and we examine various action plans designed to recruit and retain excellent public health workers.

2.2 What Does a Competent Public Health Workforce Look Like?

250,000 more public health workers are needed by 2020.
(NEHA website (<http://www.neha.org/index.shtml>), Advertisement for the Online Degree Program at the University of Nebraska)

The IOM (1988, 2002) established quite clearly that the health of the American population depends upon the competence of the public health workforce. Yet, it is shocking to learn the percentage of public health workers who have no

formal training in public health. Gerzoff et al. (1999) report, based on 1993 data, 78% of the 3000 public health leaders in local health departments lack a graduate degree in public health. Granted, this information is a bit dated and with the increase in the development of programs and schools of public health, one can assume that this percentage has declined. Nevertheless, Turnock (2006) provides further insight into the career pathway of public health administrators and managers:

It is not uncommon for a public health administrator to have a general academic degree at the bachelor's or associate degree level and to have risen through the ranks of public health service in the governmental sector. It is also common for an experienced public health professional such as an environmental health practitioner or public health nurse to be promoted into a management position. (p. 488)

Although recommendations and assessments are available from reputable public health foundations and professional organizations regarding preparation of the diverse public health workforce, Amodeo (2003) highlights, in Box 2.2, important issues that need to be considered in the changing landscape of public health practice and education.

Box 2.2 Selected Issues with Public Health Workforce Preparation, Recruitment, and Retention.

- “Current public health workers may not have any or minimal training in the core competencies of traditional public health practice, much less the skill set necessary to work with communities.”
- “As many public health workers near retirement age there are concerns about whether there are enough students in the pipeline to fill the vacancies.”
- “As local health departments compete for the relatively few trained professionals, and as local budgets are cut, the public and nonprofit sectors are confronting great difficulties in attracting and retaining qualified workers.”
- “To reflect the communities they serve, health departments should have a workforce resembling the ethnic, racial, and linguistic diversity of their service areas.”
- “As more rigorous performance standards are imposed, internally or externally, on health departments, developing the yardsticks for measuring competency in community-based public health are additional challenges.”
- “The new mandates for bioterrorism preparedness are now overlaid on all existing federal, state, and local mandates for local health department performance, including categorical funding requirements” (p. 502).

Source: Amodeo (2003).

2.2.1 Council on Linkages between Academia and Public Health Practice

One of the EPHS is to assure a competent workforce (CDC 1994). How do we do that? One way is to develop, implement, and evaluate a set of competencies (i.e., knowledge and skills) that all public health students and practitioners should be able to demonstrate as they pertain to delivering the EPHS. The Council on Linkages between Academia and Public Health Practice, a coalition comprised of 20 national organizations, did just that (Council 2013). The mission of this Council is the following:

To improve public health practice, education, and research by fostering, coordinating, and monitoring links among academia and the public health and healthcare community; developing and advancing innovative strategies to build and strengthen public health infrastructure; and creating a process for continuing public health education throughout one's career. (Council 2013)

The Council developed core competencies which are developed into eight domains (see Box 2.3) reflecting skill levels in public health, as well as being organized into three different levels that represent the public health career stage: Tier 1 (entry level), Tier 2 (supervisors and managers), and Tier 3 (senior managers and CEOs; Council 2013). Tilson and Gebbie (2004) argue that regardless of one's position in the public health system, "...all support persons in a public health agency should be knowledgeable at the fundamentals level" (p. 348).

Box 2.3 Core Competencies Developed by the Council on Linkages between Academia and Public Health.

1. Analytic/assessment skills
2. Policy development/program planning skills
3. Communication skills
4. Cultural competency skills
5. Community dimensions of practice skills
6. Public health science skills
7. Financial planning and management skills
8. Leadership and systems thinking skills

Source: Council (2013).

This listing of competencies provides a framework from which additional competencies can be developed as the public health landscape continues to change. For example, additional competency sets include genomics, emergency response, and informatics (Gebbie et al. 2002).

This is beneficial as we now have a well-developed set of competencies by which to evaluate our students and employees with respect to their ability to provide the essential services of public health. However, Kennedy and Moore (2001) accurately point out that that is only part of the approach to assuring a competent workforce.

Public health organizations will now need to create the capacity, either internally or externally, to offer opportunities for their employees to acquire the necessary knowledge and skills to be able to fulfill their current position, or if they aspire to a position requiring a higher tier of competencies. Kennedy and Moore (2001) state, “Creating the organizational capacity to enable knowledge creation and use may be the greatest determinant of how public health agencies perform in the twenty-first century” (p. 21). This is not a case of “build it and they will come,” this is a case of “can we build it?” If the answer is “Yes!” Lichtveld et al. (2001) raise the issue of providing incentives to ensure competency attainment. For example, competency demonstration could be linked to eligibility requirements for certain public health positions, or there could be a financial incentive system implemented to encourage attention to the public health competencies (Lichtveld et al. 2001).

The utility of competencies in the public health practice setting is best summarized by Turnock (2003):

Competencies should be used as measures of worker and workforce preparedness, such that competency levels are assessed, competency-related needs are identified, competency-based training is provided, and competency is recognized and rewarded in practice settings. Consistent, rather than uniform or standardized, methods and tools are needed for assessing needs, designing training interventions, targeting specific target audiences, deploying learning management systems, designing incentives for competency attainment, and rewarding competent performance. (pp. 478–479)

A final point for discussion on competencies is the viewpoint held by some “... that making the determination of whether a workforce is competent is a population-based assessment of the agency as a whole, rather than an evaluation of each individual within an agency” (Sredl and Rothwell 2000a; Sredl and Rothwell 2000b). I would argue that both are necessary—the sum of the parts comprising the whole is the “heart” of the effectiveness of a system.

2.2.2 The Answer: Credentialing the Public Health Workforce?

If professional certification were based on having a master of public health (MPH) degree, a majority of today’s workforce would not qualify, and recruitment would be impossible in many areas. (Dandoy 2001, pp. 467–468)

Credentialing or registration is a common practice among the professional workforce, the health-care system workforce in particular (i.e., physicians), which involves training and examination to demonstrate competencies in a given field or discipline. Certification in public health is viewed as a means by which those protecting the public have mastered certain competencies as evidenced by professional achievement (e.g., a comprehensive exam; Akhter 2001). The 2002 IOM report recommended that the public health field should initiate a discussion “...to address the issue of public health workforce credentialing” (p. 123). A few states were ahead of the curve in this regard by requiring that a local health officer be licensed in New Jersey; and Illinois developed competencies for administrators or managers of public health organizations or agencies (Turnock 2001). However, “the devil lies in the details” with this work. Fundamentally, the field of public health can agree that there is a need for a competent workforce but

how we get there is up for debate. For example, questions are raised regarding “grand-parenting,” i.e., who would be exempt from having to take an exam to earn a credential? How much practical field experience would count towards the credential? Would all staff be eligible for such a credential? How much would it cost to take a credentialing exam? Who will decide on the common competencies for which all public health professionals need to demonstrate competency? Where will public health practitioners acquire the necessary knowledge and skills to be able to be prepared for the credentialing exam? How will those who earn the credential maintain their credentials via continuing education opportunities? Livingood et al. (1995) also point out additional considerations including who will bestow the credential and if it will be mandated. A question I am particularly concerned about is whether there will be uniform acceptance of the public health credential by employers? We examine this question in more detail in Chap. 3.

In addition to the challenges credentialing can raise, it is important to also acknowledge the value credentialing may have for the public health workforce. Akhter (2001) lists the following potential values:

- facilitating recognition by the public and by policy makers as the leading source of expertise on public health issues
- having the skills and the knowledge necessary to help ensure that the organizations in which they work can deliver the 10 essential public health functions successfully
- creating the infrastructure for the development of meaningful career paths for public health workers
- helping to better define the profession of public health and setting its course for the future. (p. 48)

Akhter (2001) points out that “At issue is the need to make a large workforce estimated at 500,000 ‘professionals’ in public health current with basic public health knowledge and practice and to continuously refresh and expand their professional qualifications” (p. 48).

Livingood and Auld (2001) examined lessons learned from the development, implementation, and evaluation of the certification of health education specialists, also known as the CHES, with respect to their applicability to the field of public health. The authors offer the following lessons:

- Profession-wide opportunities for input into the development of the credentialing process are critical for profession-wide ownership and support.
- Communication with key stakeholders is essential throughout the development process.
- Credentialing must be based on competencies linked to job responsibilities and such competencies should be based on sound, defensible research.
- An independent credentialing organization is essential with a viable plan for long- and short-term funding.
- Research must be conducted on the outcomes of credentialing, which should examine the original expectations/projected benefits and detriments as well as address any unintended impacts. (p. 43)

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