

## A MISMATCH BETWEEN THE EDUCATIONAL PIPELINE AND PUBLIC HEALTH WORKFORCE: CAN IT BE RECONCILED?

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For more than a decade, reports have indicated that U.S. public health agencies have had workforce shortages and also expect a large portion of valued employees to retire.<sup>1</sup> Shortages seem to be most prevalent among nurses, epidemiologists, environmental health workers, laboratory technicians, and dietitians, all of whom are highly skilled public health workers.<sup>2-4</sup> Complicating matters further, recent surveys (2012 and 2014) indicate that as much as 38% of states' public health workforce is planning to retire or leave governmental public health by 2020.<sup>5,6</sup>

In contrast to the public health workforce shortages during the last decade, tens of thousands of newly trained public health graduates have entered the job market. New schools and programs of public health are sprouting every year, and the number of potential public health employees increased by 69% in a decade, from 5,747 in 2001 to 9,717 in 2011.<sup>7</sup> These graduates are not just trained in advanced-degree programs; more than 175 institutions now offer undergraduate degrees in public health. As a result, an estimated 6,000 new public health undergraduates are looking for jobs;<sup>8</sup> however, data from a 2014 survey indicate that only 17% of state public health workers have formal training in public health.<sup>6</sup>

Given the chronic workforce shortages, pending worker retirement, and increase in the number of prospective public health employees, why does this paradoxical supply-demand imbalance persist? This discrepancy begs examination.

### KNOWING WHAT WE DO NOT KNOW

The phenomenon of a persistent public health workforce shortage despite substantially higher numbers of graduates raises several questions, each of which is empirical and demands an answer. First, where are graduates of schools and programs of public health, nursing, and health professions seeking employment?<sup>6,9</sup>

Second, are graduates who are considering jobs in governmental public health deterred by certain factors?<sup>9</sup> Third, for graduates who do enter governmental public health, how long do they stay?<sup>10</sup> These questions are not new; however, the difference is that today a much larger supply of public health graduates exists than ever before. Despite modest efforts to understand what attracts potential public health candidates to vacancies,<sup>11</sup> public health agencies do not know how best to recruit qualified public health workers into the vacancies, thereby exacerbating the crisis.

To separate myth from fact, it is important to identify recruitment barriers and determine the extent to which they affect potential employment decisions. It is also important to determine whether or not recruitment barriers differ across disciplines and positions.<sup>12-14</sup> We must validate the evidence before trotting out the age-old excuse that public health agencies pay less than private-sector employers. Recent research suggests that, on average, public health salaries are not as low as presumed.<sup>9,15,16</sup> Although anecdotal evidence suggests that noncompetitive salaries matter, other factors (e.g., lengthy delays in hiring processes at public health agencies) may contribute to highly qualified applicants choosing nongovernmental jobs.<sup>17,18</sup>

Aside from protracted delays in the interviewing process, little evidence indicates whether it is a contributing factor or exemplifies the extent to which governmental hiring differs from hiring at nongovernmental or for-profit organizations.<sup>18</sup> One potential hypothesis suggests a potential mismatch between the skill sets that schools and programs of public health provide to students and what is required—or sought—by public health agencies.<sup>9</sup> Testing this hypothesis includes ascertaining whether or not the many new undergraduate schools and programs of public health produce potential employees with adequate training and reasonably appropriate salary expectations. The civil service system and all of its complicating factors (e.g., merit examinations, minimum qualifications) may also deter graduates from seeking government employment in public health.<sup>17</sup> Navigating these state and local civil service hiring systems may be more complicated, time-consuming, and discouraging than the hiring systems of other industries. For the most part, however, little evidence is available on the effect of the civil service system or the lack of transparency of the hiring process on potential candidates. Lacking the research needed to examine these issues, including the

extent to which graduates desire vacant positions and whether or not agencies feel graduates are qualified for these vacancies, public health agencies will remain uninformed and possibly misaligned with strategies to resolve these issues with evidence-based approaches.

On the other hand, experts in the field question whether the reported shortages are real. It is also unclear if agencies intend to fill vacancies or if, as we have seen with the recent recession, deflated budgets will result in the elimination of open positions, with even further attrition of those positions vacated by soon-to-be retirees. During the recent recession, state and local public health agencies lost about 46,000 positions.<sup>19,20</sup> If these positions were non-vital, then perhaps public health agencies will be slimmer and more efficient without them. If not, public health agencies may be making do without an adequately trained and sized public health workforce, which could be detrimental to the remaining workers who have to handle heavier workloads, to the agencies as a whole, and potentially to population health should the quality and availability of public health activities suffer.

## BETTER ALIGNING SUPPLY AND DEMAND

Something must be done to change the status quo. If public health is to remain relevant in the post-Affordable Care Act era, it will be necessary to identify strategies and policies to prepare public health agencies to be appropriately tooled for their role in the U.S. population health system. We need to examine the recruitment of public health professionals in the civil service system. It would be valuable to know if any of the recent state civil service reforms resolved the delays in hiring the best candidates, and in what other ways reforms have affected recruitment of public health employees.<sup>21</sup> Other state and local policy makers and leaders could benefit from lessons learned from these changes, especially as they consider developing their own state civil service reforms. Similarly, if activities such as public health accreditation benefit agency recruitment, best practices and lessons learned in these settings could be used to inform change for other public health agencies. Given cross-sector collaborations such as the Council on Linkages between Academia and Public Health Practice, ways to explore resolutions to workforce shortages, especially through partnerships with institutions training the new workforce, must exist.<sup>9,12</sup> Without an in-depth exploration, we cannot know if the workforce void is caused by graduates who lack established competencies. Without answering these questions, we will not know what

changes should be suggested or what can be done from a policy standpoint to implement changes.

Regardless of the current or predicted public health workforce shortage, factors important to the recruitment of new public health workers are not well understood. Because of the many new undergraduate and graduate-level students coming out of schools and programs of public health, nursing, and other health professions, new insight into what influences their employment decisions will be an important starting point for filling the gap in the public health workforce.

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