

Trends and Characteristics of the State Public Health Workforce

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Background

The Association of State and Territorial Health Officials (ASTHO) periodically assesses the number of state public health workers by occupational category. The purpose of this study is to analyze workforce trends from 2010-2012 in state public health agencies by geographic region, governance structure, and size of population served.

Methods

Data Sources

ASTHO Profile of State Public Health surveys from years 2010 and 2012.

Study Variables

- Occupational category: 15 occupations recommended by previous studies were used for analysis.¹ Workers in other occupations and uncategorized workers were grouped together in a separate category. Definitions for emergency preparedness staff and public health dental worker were broadened for the 2012 Profile survey, preventing trend comparison.
- Governance structure: health departments were coded into three categories:
 - Centralized/largely centralized (“centralized”) for health units primarily led by employees of the state
 - Shared/mixed for states where local health units may be led by employees of state or local government (“shared”), or where some local health units are led by employees of the state and some by employees of local government (“mixed”)
 - Decentralized/largely decentralized (“decentralized”) for states where local health units are led by employees of local governments and local governments generally have autonomy in decision making
- Size of population served: categories of small (up to 2.75 million), medium (of 2,750,001 to 6.25 million) and large (over 6.25 million) were used in the analysis.
- Geographic region: States were coded as New England; South; Mid-Atlantic and Great Lakes; Mountain and Midwest; or West, as categorized by the ASTHO Profile.²

Data Analysis

Data from 47 states were used in the analysis. Three states were excluded from the study because they did not provide workforce data in 2010 or 2012. Six states did not report workforce data by occupational category in 2012; 2010 worker category proportions were applied to 2012 worker totals in these cases. One state provided worker data in 2010 but not 2012; worker totals were carried forward to 2012 in this case. Data were cleaned to ensure consistency between the total number of full time equivalent workers reported and number of workers reported by occupational classification. SPSS v.19 and Excel were used for analyses. This project was deemed non-research by the UM IRB.

Results

Workforce Changes by Occupational Category, 2010-2012

- The overall size of the state public health workforce in the responding states declined 4% from 104,522 to 100,064 workers.
- The occupational categories with the highest proportion of workers in both 2010 and 2012 were administrative/clerical personnel, public health nurse, and environmental health worker.
- Occupations which experienced the greatest decreases in the number of workers were public information specialist, public health informatics specialist, and behavioral health professional, all of which had a decrease in the number of workers.
- Nutritionist, public health manager, and environmental health worker categories saw an increase in number of workers from 2010 to 2012.

Table. Number of full-time equivalent (FTE) state health agency workers by occupational category, 2010-2012 (n=47 states)

Occupational Category	Number of FTE Workers		% Change
	2010	2012	
Administrative or clerical personnel	18,301	18,631	1.8%
Behavioral health professional	2,957	2,353	-20.4%
Emergency preparedness staff	42	1,037	N/A ^a
Environmental health worker	5,767	5,909	2.5%
Epidemiologist	2,549	2,329	-8.6%
Health educator	2,412	2,012	-16.6%
Laboratory worker	3,961	3,818	-3.6%
Nutritionist	1,532	1,633	6.6%
Public health dental worker	225	456	N/A ^b
Public health informatics specialist	1,315	933	-29.0%
Public health manager	3,793	4,218	11.2%
Public health nurse	11,021	9,482	-14.0%
Public health physician	1,132	1,012	-10.6%
Public information specialist	331	223	-32.6%
Other public health professional or uncategorized worker	49,183	46,017	-6.4%
TOTAL	104,522	100,064	-4.3%

Workforce Trends by Size of Population Served, 2010-2012

- Small states (n=14) had an 8% decrease in the number of state public health workers.
- Medium states (n=17) had a 5% decrease in the number of state public health workers.
- Large states (n=16) had a 3% decrease in the number of state public health workers.

¹University of Michigan/Center of Excellence in Public Health Workforce Studies, University of Kentucky/Center of Excellence in Public Health Workforce Research and Policy. Strategies for enumerating the U.S. governmental public health workforce. Rev. ed. Washington, DC: Public Health Foundation; 2012.

² Association of State and Territorial Health Officials (ASTHO). ASTHO profile of state public health: volume two. Arlington, VA: ASTHO; 2011.

Results, continued

Workforce Trends by Governance Structure, 2010-2012

- Centralized states (n=13) saw an overall decrease of 7% in the number of state public health workers, with the largest proportional decreases seen in public health informatics specialists and other/uncategorized workers. Occupations with the largest increase in workers included epidemiologist and nutritionist.
- Mixed/shared states (n=10) had a 3% decrease in the number of state public health workers, with health educator and public information specialist showing the largest proportional decrease and public health informatics specialist and public health manager occupations showing the largest increase in workers.
- Decentralized states (n=24) saw a nearly 4% decrease in the overall number of state public health workers, with the largest proportional decreases in public health nurse, public information specialist, and behavioral health professional occupations and an increase in public health informatics specialists.

Workforce Trends by Geographic Region, 2010-2012

- The region with the highest proportional decrease in the number of state public health workers was New England (13%), followed by West (8%), and South (4%).
- The size of the state public health workforce remained relatively stable (approximately 1% decrease in number of workers) in the Mid-Atlantic and Great Lakes and Mountain and Midwest regions.

Limitations

Limitations of this study include non-response and missing data from respondents. Data substitution methods were used for 7 states, which impacts the accuracy of the enumeration estimations.

Conclusions

The findings of this study show a slight decrease in the number of state public health workers. Some trends and characteristics of the state public health workforce vary by occupational category, size of population served, and/or U.S. geographic region. Public information specialists, behavioral health specialists, and public health informatics specialists experience the largest reduction in number of workers, as did centralized and New England states. Further research to explain workforce changes would be valuable.

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