

# Workforce Turnover at Local Health Departments

## Nature, Characteristics, and Implications

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**Background:** Employee turnover, defined as total separations from employment, is expensive, can result in lost capacity, and can limit local health departments' (LHDs') ability to respond to public health needs. Despite the importance of workforce capacity in public health, little is known about workforce turnover in LHDs.

**Purpose:** To examine the extent to which LHDs experience turnover and identify LHD characteristics that are associated with turnover.

**Methods:** A cross-sectional data set of employee turnover and LHD characteristics from the 2013 National Profile of LHDs was analyzed. Descriptive statistics and bivariate analyses were conducted in 2014 on turnover rates. The effect of the following LHD characteristics on turnover rates were examined: population size, governance type, degree of urbanization, top executive experience level, expenditures per capita, and LHD budget cuts.

**Results:** In 2013, LHDs experienced a mean turnover rate of 9.88%; approximately one third of turnover was due to retirements. LHDs with shared state and local governance experienced a higher turnover rate than LHDs with exclusive state or local governance. LHDs that are units of state agencies had a significantly higher retirement rate than those governed by local authorities. Top executive experience level, per capita expenditures, and LHD budget cuts were also related to turnover rates.

**Conclusions:** LHDs experienced a lower overall turnover rate than state health departments in 2011 and lower than all local and state government agencies in 2012. Strengthening leadership skills of new top executives and ensuring adequate funding may reduce turnover in LHDs.

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## Introduction

Employee turnover, defined as total separations from employment, can be detrimental to organizations including local public health because it is expensive, results in loss of expertise, and negatively affects organizational performance.<sup>1–3</sup> The Bureau of Labor Statistics (BLS) classifies separations as voluntary separations by the employee (quits); involuntary separations initiated by the employer (layoffs and discharges); and other separations due to retirement, death, or disability.<sup>4</sup> Costs to recruit and train new employees are high<sup>1,5,6</sup>; in the private sector, previous

research has estimated the cost of turnover to be 50%–200% of the employee's annual salary.<sup>7</sup> Organizations also lose expertise and institutional knowledge when employees leave.<sup>1–3</sup>

Some literature has argued that the public sector employs more “knowledge-based individuals” compared to the private sector, making lost expertise even harder to replace in government.<sup>3</sup> Employee turnover can be especially damaging for the public health workforce and specifically to local health departments (LHDs) because LHDs are often subject to hiring freezes: 36% of all LHDs and 58% of LHDs serving large jurisdictions (more than 500,000 people) experienced a hiring freeze from 2007 to 2008.<sup>8</sup> During a hiring freeze, a separation results in a lost position, at least in the short term and possibly in the longer term.

Previous literature has also emphasized that the public health workforce is aging and retirement rates will likely increase, representing another force affecting turnover rates.<sup>2,3</sup> In both 2005 and 2008, LHDs estimated that 20%

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of their employees would be eligible to retire in the next 5 years<sup>8,9</sup>; in 2012, more than a quarter (27%) of LHD nurses were eligible to retire over the next 5 years.<sup>10</sup> Additionally, a study of a federal public health agency reported that more than 30% of its workforce will be eligible to retire by December 2017.<sup>11</sup>

Staff turnover represents a major concern for LHD top executives. A 2013 survey of LHDs reported that many LHD top executives are concerned about staff retention and recruitment.<sup>12</sup> Among LHDs of various sizes, locations, and governance structures, 70% of top executives are concerned about retaining currently funded positions and 62% are concerned about retaining well-qualified employees.<sup>12</sup>

The national research agenda for public health services and systems research includes employee retention as a priority research topic. The following research question has been asked: "How does staff turnover influence the effectiveness and efficiency of public health strategies delivered at local, state, and national levels?"<sup>13</sup> A literature review conducted to inform the creation of this research agenda did not identify any estimates of employee turnover in LHDs published in the past 25 years.<sup>14</sup>

Studies have provided turnover rates in various government sectors. The BLS tracks employee turnover rates (calculated by dividing the total number of separations by the total number of employees) across industries. In 2012, the turnover rate in state and local government was 16.4%.<sup>15</sup> The Association of State and Territorial Health Officials (ASTHO) found somewhat lower turnover rates among state health departments: 10.78% in 2009, 11.40% in 2010, and 11.45% in 2011 (R Liss-Levinson, Association of State and Territorial Health Officials, personal communication, 2013). So far, little is known about employee turnover at LHDs and available evidence focuses on specific occupations. In a survey of public health nurses conducted in 2012, half of LHDs indicated they experienced some staff turnover in the last fiscal year.<sup>10</sup>

Several studies in the public health, healthcare, and government workforce fields have identified organizational infrastructure characteristics that influence turnover. For instance, the use of competitive pay as a recruitment and retention strategy varies among LHDs of different jurisdiction sizes, geographic regions, and governance structures,<sup>12</sup> suggesting turnover could also vary by these characteristics. LHDs may have different staffing and workforce patterns based on jurisdiction size and composition, which can also impact recruitment and retention.<sup>16</sup>

Similarly, the use of retirement benefits as a recruitment and retention strategy have been found to vary by geographic region,<sup>12</sup> which may also lead to variation in turnover. In addition, governance structure can have an

impact on availability of and access to resources,<sup>17</sup> which can affect wages and organizational culture, and in turn affect worker retention. Lastly, studies on recruitment and retention practices at rural versus urban agencies have yielded mixed results: Although some literature suggests that recruitment and retention of nurses was more difficult in rural communities, probably because of lower compensation and difficulty attracting staff,<sup>16-18</sup> other studies of nurse turnover did not find a difference between rural versus urban location.<sup>19</sup>

Characteristics of the agency top executive or the organization's management also impact workforce turnover: skilled leadership and quality of management,<sup>1,20-22</sup> stability in leadership tenure,<sup>23,24</sup> and perceived supervisor and management support<sup>6,25</sup> can increase job satisfaction and retention and decrease turnover.

Despite the importance of workforce capacity in addressing public health needs, little is known about workforce turnover at LHDs. This lack of data to characterize employee turnover makes it difficult to identify organizations with particularly high or low employee turnover, which could lead to further exploration of reasons for employee turnover and strategies to reduce it. The purpose of this study is to establish a baseline for employee turnover in LHDs and identify organizational characteristics associated with LHD employee turnover.

## Methods

### Data Source

Data were drawn from 2013 National Profile of Local Health Departments (Profile) study, the only comprehensive national survey of LHD infrastructure and activities, conducted by the National Association of County and Health Officials (NACCHO). The 2013 Profile survey included a set of core questions (Core) sent to all 2,532 LHDs in the U.S., and additional supplemental questions grouped into two modules. LHDs were randomly assigned to receive only the Core or the Core plus one of the two modules. A total of 2,000 LHDs responded to the survey (79% response rate).

Most of the variables included in this study were from the Core questionnaire, but retirement measures were from a module of the Profile questionnaire, which was administered to a nationally representative sample of 625 LHDs and completed by 490 LHDs (78% response rate). The 2013 Profile questionnaire did not include questions on employee turnover, but data collected on employee separations and hires were combined with data on total number of employees to estimate turnover rates.

### Measures

The Profile study collected data on the total number of positions eliminated at LHDs in 2012 (total number of employees laid off plus the number of employees lost through attrition and not replaced). The Profile study did not collect the number of

employees that left in 2012 and whose positions were refilled; instead, it collected data on the number of employees hired to fill vacant positions in 2012, which was used as an approximation of the number of employees who left the agency (thus causing those vacancies).

Total turnover was computed by summing the number of positions eliminated via layoffs, via attrition, and the number of positions filled (as an estimate of the number of departures that caused those vacancies). Three specific types of turnover rates were examined: the percentage of staff lost because of layoffs, the percentage of staff lost to attrition (i.e., positions that were eliminated), and the percentage of staff lost in positions that were refilled. In addition, a retirement rate was computed by dividing the number of employees LHDs reported as retiring in 2012 by the total number of employees.

LHD characteristics included jurisdiction population size (<50,000, 50,000–499,999, and  $\geq 500,000$ ); governance type (state, local, and shared); experience level of top executives (first-time top executive and <2 years in the position versus  $\geq 2$  years' experience in the position); quartiles of per capita expenditures (<25th percentile, 25–49th percentile, 50–74th percentile, and  $\geq 75$ th percentile); whether the LHD's budget was lower in the current than previous fiscal year (yes versus no); and the degree of urbanization of the LHD jurisdiction (urban versus rural). The degree of urbanization was determined according to the rural-urban commuting area (RUCA) codes. The zip code of the agencies' physical address was used to classify their degree of urbanization based on a zip code RUCA approximation measurement developed by the Washington, Wyoming, Alaska, Montana, and Idaho Rural Health Research Center (WWAMI RHRC).<sup>26</sup>

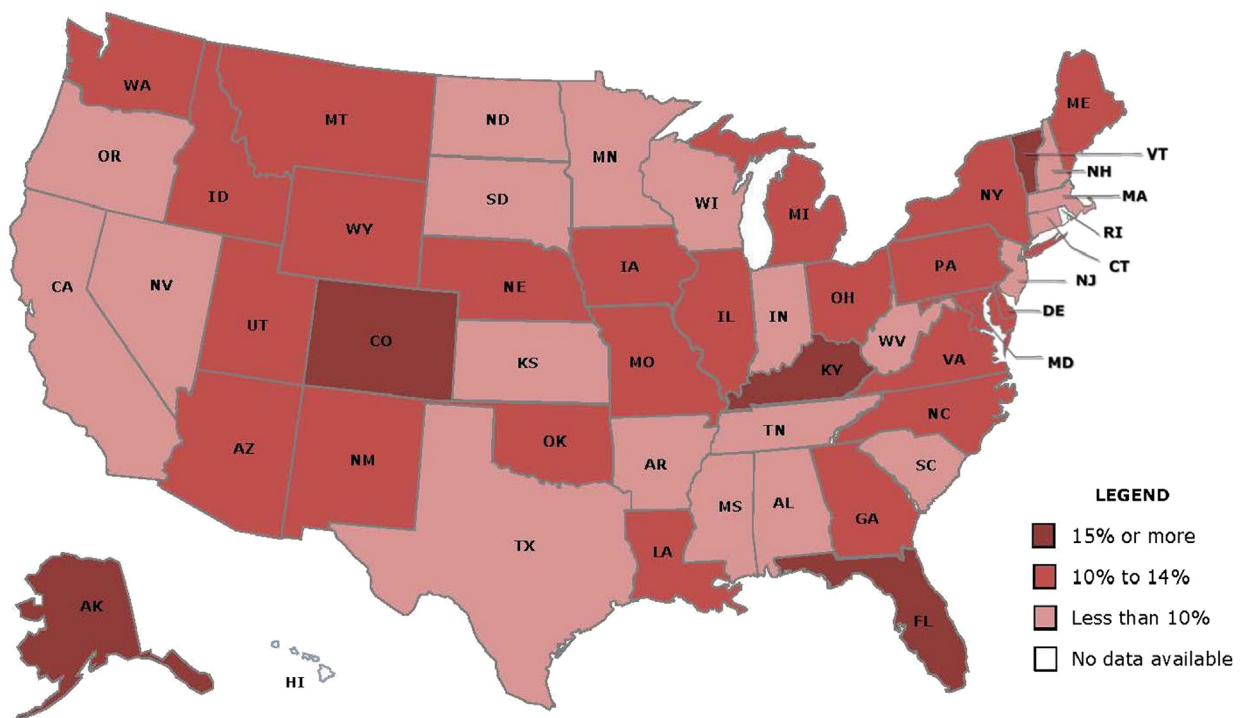
## Data Analysis

Statistical analyses were conducted in 2014 using Stata, version 12.1. Descriptive statistics included computation of percentages and SDs for all LHDs and by LHD characteristics. Differences in turnover rates among subgroups were tested using *t* tests or ANOVAs followed by post hoc analysis, as appropriate. All *p*-values are two-tailed, with values <0.05 considered statistically significant. Proper weights were applied in all analyses to account for varying non-response by size of population served (Core) and sampling (module).

## Results

Nationwide, an average of nearly 10% of LHD staff left their job in calendar year 2012. Figure 1 presents the map of state-level variation in average turnover percentages. The mean turnover rates among LHDs in 21 states were <10%. Seven states (South Dakota, New Jersey, Massachusetts, South Carolina, Oregon, Connecticut, and Nevada) had turnover rates of <8%. In five states (Kentucky, Colorado, Vermont, Florida, and Alaska), the mean turnover rates were  $\geq 15\%$ .

Table 1 shows descriptive statistics and bivariate analysis results on the overall turnover rate, percentage of staff lost to layoffs or attrition, and percentage of staff lost in positions that were refilled, by LHD characteristics. Overall turnover was higher among LHDs with



Source: 2013 National Profile of Local Health Departments

Figure 1. Mean turnover rate by state.

Table 1. Descriptive statistics and bivariate analysis on turnover rates

	Overall turnover rate (n=1,805)	Staff loss due to layoff (n=1,876)	Employee attrition (n=1,877)	Employee turnover but position filled (n=1,857)
	p-value	p-value	p-value	p-value
All LHDs	9.9 (12.8)	1.0 (0.05)	2.3 (10.47)	7.0 (10.5)
Population size	0.83	0.86	0.28	0.86
< 50,000	9.7 (14.7)	0.97 (0.06)	2.4 (0.06)	6.9 (12.1)
50,000–499,999	10.1 (9.4)	1.1 (0.04)	2.0 (0.04)	7.2 (7.2)
≥ 500,000	10.4 (6.5)	0.88 (0.02)	2.4 (0.04)	7.0 (5.4)
Governance type	< 0.001	< 0.001	0.38	0.38
State	9.9 <sup>a</sup> (10.9)	0.20 <sup>a</sup> (0.02)	1.9 <sup>a</sup> (0.04)	7.7 (10.3)
Local	9.2 <sup>a</sup> (12.8)	0.93 <sup>a</sup> (0.05)	2.1 <sup>a</sup> (0.05)	6.6 (10.6)
Shared	15.5 <sup>b</sup> (16.2)	3.4 <sup>b</sup> (0.12)	3.9 <sup>b</sup> (0.07)	8.4 (9.1)
Top executive experience level	< 0.01	0.64	0.9	< 0.001
First-time top executive and < 2 years in the position	11.7 (11.9)	1.2 (0.05)	2.3 (0.05)	8.9 (10.6)
Top executives with ≥ 2 years' experience in the position	9.4 (11.6)	1.0 (0.06)	2.3 (0.05)	6.5 (8.7)
Percentiles of expenditures per capita	< 0.05	< 0.001	0.11	< 0.05
First quartile	8.5 <sup>a</sup> (11.4)	0.61 <sup>a</sup> (0.03)	2.0 (0.06)	6.2 (9.7)
Second quartile	10.5 (10.8)	0.62 <sup>a</sup> (0.02)	2.6 (0.05)	7.7 <sup>b</sup> (9.4)
Third quartile	9.2 (8.7)	0.97 (0.04)	2.5 (0.05)	5.9 <sup>a</sup> (6.8)
Fourth quartile	11.0 <sup>b</sup> (12.6)	1.8 <sup>b</sup> (0.07)	3.0 (0.07)	6.7 (7.5)
Budget cuts	< 0.001	< 0.001	< 0.001	0.93
Yes	12.6 (14.6)	2.5 (0.10)	4.0 (0.07)	6.8 (8.2)
No	8.8 (12.1)	0.45 (0.03)	1.7 (0.04)	6.88 (11.1)
Degree of urbanization	0.62	0.59	< 0.05	1
Urban	9.7 (12.7)	1.1 (0.04)	2.0 (0.05)	6.96 (10.9)
Rural	10.0 (12.9)	0.94 (0.06)	2.5 (0.06)	6.96 (10.1)

Note: Values are M (SD) percentages. Boldface indicates statistical significance.

<sup>a,b</sup>Different letters indicate significantly different mean values at  $p < 0.05$ ; post hoc pairwise comparison was conducted by using Tukey's honestly significant difference test.

LHD, local health department.

shared governance, with first-time top executives with < 2 years of experience in their position, within the highest quartile of expenditures per capita, or with lower budgets compared to the previous year. In addition,

governance type was associated with percentage of staff lost because of layoffs: LHDs with shared governance reported higher rates of staff lost to layoffs than locally governed LHDs and units of the state health agency.

**Table 2.** Retirement rate and percentage of separation due to retirement, by population size and governance type

	Retirement rate (n=461)	Separation due to retirement (n=318)
	p-value	p-value
All LHDs	3.0 (4.8)	33.4 (42.3)
Population size	0.88	0.71
< 50,000	3.0 (6.2)	33.5 (45.6)
50,000-499,999	2.8 (3.2)	32.1 (37.2)
≥ 500,000	3.1 (2.3)	40.2 (45.8)
Governance type	<0.001	<0.05
State	4.4 (5.6)	45.1 (52.0)
Local	2.4 (4.7)	30.8 (38.7)
Shared	3.5 (7.3)	25.4 (37.1)

Note: Values are M (SD) percentages. Boldface indicates significance. LHD, local health department.

Percentile of expenditures per capita was associated with both the percentage of staff departures due to layoffs and percentage of staff lost in positions that were refilled. LHDs with less-experienced, first-time top executives had a higher percentage of staff lost in positions that were refilled. LHDs with lower budgets compared to the prior year tended to have higher percentage of staff loss due to layoff or attrition. LHDs located in rural areas reported higher percentage of staff loss due to attrition than LHDs in urban areas.

Table 2 presents retirement rates and percentage of turnover due to retirement. Only 3% of LHD employees retired during the past year, which accounted for one third of the overall employee turnover. There were no significant differences in the retirement rate across population categories. LHDs that were units of state agencies had a significantly higher retirement rate than those governed by local authorities.

## Discussion

An effective public health system relies on the capacity of its workforce, making it important to understand and improve retention. Despite a high level of concern about employee turnover among LHD top executives,<sup>12</sup> LHDs experience lower rates of employee turnover than state health agencies and lower rates than state and local government in general. In 2013, LHDs experienced a mean turnover rate of 9.88%, lower than turnover rates reported for state health departments (10% to 11% from 2009 to 2011) or state and local governments overall (16.4% in 2012).<sup>15</sup>

Several agency characteristics were associated with workforce turnover at LHDs. LHDs with per capita expenditures in the top quartile (≥75th percentile) had higher overall turnover rate than those with per capita expenditures in the lowest quartile (<25th percentile). In addition, LHDs with shared governance or with a lower budget relative to the previous year tended to have higher turnover rates. Governance structure can have an impact on availability of and access to resources,<sup>17</sup> which can affect wages and organizational culture, and in turn affect turnover.

Population size was not associated with any type of turnover rate, suggesting that LHDs of all sizes experience similar challenges with turnover.

Degree of urbanization was only significantly associated with the percentage of staff lost to attrition. Previous studies on turnover rates and urbanization had mixed findings,<sup>16-19</sup> and this study's association with a single subset of turnover also suggests that the relationship between urbanization and employee turnover is weak at best.

Workforce turnover in LHDs led by new top executives was higher (11.69%) than among top executives with ≥2 years of experience in their position (9.41%), and most of this difference is attributed to turnover in positions that were refilled. This finding could suggest that new top executives are proactively making staffing changes as they enter a new agency. On the other hand, this finding might also suggest that inexperienced managers experience higher voluntary employee turnover. The current data cannot distinguish between these two possibilities, because they do not include a breakdown on reason for separation in cases where a position was refilled (voluntary separation versus involuntary dismissal).

Previous research shows that organizational change, including change in leadership, can have an effect on turnover intention and behavior.<sup>27</sup> In addition, stability of leadership has an impact on workplace satisfaction and staff turnover; new leadership may create organizational change and reduce employee commitment to the agency, thus increasing likelihood of turnover.<sup>23,24</sup> If this is the case in LHDs, ensuring that new LHD top executives have the leadership skills needed to avoid turnover is critically important. Further exploration is needed in this area.

Contrary to expectations, this study does not show evidence of increasing retirement rates among public

health employees. LHDs reported that 2.97% of their staff retired in 2012, or approximately one third (33.39%) of overall turnover. The mean rate of staff retirements during 2012 is essentially unchanged from mean rates reported in the 2008 (3%) and 2010 (2.7%) Profile studies.<sup>9,28</sup> However, without better data on ages of employees at LHDs, it is difficult to predict whether retirement rates will not be as high as anticipated, or whether retirements have been postponed.

Some research<sup>3,10</sup> shows that retirement-eligible employees often remain employed for financial reasons and the uncertain economy in recent years might explain why retirement rates have remained low. As the economy improves, public health could experience the anticipated increase in retirement rates, resulting in loss of institutional knowledge and community connections.

### Limitations

This study has several limitations, as it makes use of data collected for other purposes to estimate employee turnover at LHDs. First, the design is cross-sectional and thus causal inferences cannot be made. Second, the Profile study only examines organizational characteristics, rather than job and employee characteristics—such as job satisfaction, training and professional development opportunities, and worker salary—which previous literature has shown to be associated with turnover.<sup>1,5,14,29</sup>

Third, employee turnover was calculated on the basis of an approximation of the number of employees laid off, number of employees lost through attrition and not replaced, and number of positions filled because of turnover. The latter number introduces additional uncertainty into the estimate, because some of the 2012 hires filled positions vacated in 2011 and some of the vacated positions in 2012 were not filled until 2013. However, because the number of vacated positions that were refilled in 2011 and 2012 was similar, the number of employees hired to fill vacant positions should serve as a reasonable estimate for the number of vacated positions in that year.

Lastly, voluntary and involuntary turnover cannot be distinguished, making it impossible to examine factors that might be associated with only voluntary versus involuntary turnover. A survey designed specifically to measure employee turnover would measure total separations directly and would include subgroups that mirror the BLS definition (voluntary, involuntary, or other).

### Practice Implications

Despite relatively uncompetitive pay,<sup>10,30</sup> LHDs show low levels of staff turnover. This suggests that factors other than salary are most important to employee

retention. Some non-wage factors in retention reported in the literature also have financial implications (such as retirement benefits,<sup>1</sup> promotion opportunities,<sup>5</sup> and job training<sup>1,6,14</sup>), but other factors (such as organizational culture<sup>31</sup> and quality of supervision<sup>20,22,25</sup>) could be addressed independent of budget restrictions. Additional research should explore the factors that influence LHD staff retention for employees in specific occupations and with varied experience levels.

Both LHD leaders and other public health leaders and policymakers need to better understand the expected trajectory for employee retirement at LHDs. Many LHDs have not determined the retirement eligibility of their staff, and few have tabulated ages of their employees.<sup>8</sup> LHD leaders need to understand if, when, and how employee retirements will impact their agencies. If this assessment indicates significant impacts to the workforce, LHD leaders can take proactive steps to minimize impact, including succession planning and developing systems to capture institutional knowledge of experienced employees. Better data on employee age and retirement plans will help the broader public health field understand how demand for public health workers may change in the future and consider the implications of increased demand for public health education and training.

The roles and responsibilities of LHDs continue to evolve in response to changes in national, state, and local public health and healthcare systems. LHDs will need workers with different kinds of knowledge and skills to work effectively in these new roles and contribute toward improving community health. Low levels of staff turnover should encourage LHDs to invest in training their employees.

Organizations with high levels of staff turnover may experience limited increases in employee performance if their newly trained employees leave the organization; thus, these organizations do not reap the benefits of their investment in employee training. Given LHDs' relatively low levels of employee turnover, LHD leaders should be confident that their own organizations would benefit from improvements in the knowledge and skills of their employees. Understanding how to retain their best workers and help them develop new competencies are key challenges for LHDs in the early 21st century.

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