

Considering Leaving, But Deciding to Stay: A Longitudinal Analysis of Intent to Leave in Public Health

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ABSTRACT

Context: Public health has been hit by the first wave of the “silver tsunami”—baby boomers retiring *en masse*. However, thousands of staff members say they are considering voluntarily leaving for other reasons as well.

Objective: To identify characteristics of staff who said they were planning on leaving in 2014 but stayed at their organizations through 2017.

Design: Data from the 2014 and 2017 Public Health Workforce Interests and Needs Survey (PH WINS) were linked by respondent, and characteristics associated with intent to leave were analyzed. Longitudinal logistic models were fit to examine correlates of intent to leave, with job and pay satisfaction, demographic variables, and workplace engagement perceptions as independent variables.

Setting and Participants: Respondents from state health agency–central offices and local health departments that participated in the PH WINS in 2014 and 2017.

Main Outcome Measures: Intent to leave (excluding retirement), demographic measures, and changes in the perceptions of workplace engagement.

Results: Among all staff members responding in 2014 and 2017, 15% said they were considering leaving in 2014, excluding retirement, compared with 26% in 2017 ($P < .001$). Overall, 21% of those who were not considering leaving in 2014 indicated they were doing so in 2017. Comparatively, 57% of those considering leaving in 2014 said they were still considering it in 2017. The regressions showed those who were somewhat or very satisfied were significantly more likely to indicate they were not (or were no longer) considering leaving.

Conclusions: Among staff members who have been considering leaving but have not yet left their organization, improvements to workplace engagement perceptions and job satisfaction were highly associated with not considering leaving their job.

KEY WORDS: intent to leave, public health workforce interests and needs survey (PH WINS), voluntary turnover, workforce research

Context

The governmental public health workforce is rapidly aging—in 2014, a quarter of state health agency staff

indicated that they were planning to retire by 2020.¹ Approximately the same percentage was reported as retirement-eligible at the organizational level, representing almost 50 000 employees.^{1,2} Other forms of voluntary turnover are adding to departures due to retirement. This creates the potential for an unprecedented turnover in the governmental public health workforce in which senior, experienced staff are lost and the availability of staff to replace them who have governmental public health experience is also compromised.³ Although the workforce across the public and private sectors is both aging and may face similar challenges, state and local public health faces a different challenge, as the size of the workforce has declined by 50 000 since 2008, and state public sector full-time employee totals are still several hundred thousand below their peak in 2008-2009.^{2,4,5}

While the potential for significant turnover exists, there may be strategies that impact the likelihood of realizing this potential. Work factors such as stress,

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job satisfaction, and supervisory support continue to outweigh individual or demographic factors as determinants of intent to leave, which is an important predictor of actual workplace departure.⁶⁻⁹ In particular, job dissatisfaction has a strong relationship with intent to leave, as does pay-related dissatisfaction.¹⁰⁻¹² These phenomena are observed across sectors as well as internationally.¹³⁻¹⁵ Intent to leave is commonly included in workforce studies and analyses, but there are few longitudinal analyses that explore whether intention to leave is followed through and whether factors influencing intent to leave are consistent over time. A small longitudinal study of turnover among information technology personnel showed that approximately a third of those who say they intend to leave actually do and that those who were consistent in their ratings of job satisfaction and organizational commitment were less likely to leave than those whose responses changed over time.¹⁰ A longitudinal study of early-career nurses found that the major drivers of intent remained stable as respondents matured in their jobs.¹⁶

Previous analyses using nationally representative data from the 2014 Public Health Workforce Interests and Needs Survey (PH WINS) have shown strong relationships between intent to leave and perceptions of the workplace, including, especially, job satisfaction, supervisory satisfaction, perceived organizational support, and employee engagement.¹⁷⁻¹⁹ A second fielding of PH WINS in 2017 created the potential for a longitudinal study of state and local governmental public health staff who indicated they were intending to leave but remained with their organization between 2014 and 2017. Capitalizing on this opportunity, the purpose of this study was to assess the correlates of intending to leave but remaining on the job. This study is the first large-scale longitudinal analysis of workforce departure in the public health literature.

Methods

The primary objective of this article is to examine correlates of intent to leave over time among public health staff. To achieve this objective, we utilized PH WINS data from 2014 and 2017. The detailed methodology of these surveys is documented elsewhere.^{20,21} PH WINS was fielded in both years to public health staff across the United States via a Web-based survey platform. Respondents were asked to indicate perceptions across multiple domains, including workplace environment and job satisfaction, training needs, awareness of national trends, and demographics. Most important for purposes of this article, respondents were asked whether they were considering leaving their organization in the next year

and whether they were planning to retire in the next 5 years. In all analyses of intent to leave in this article, we exclude those who are considering leaving due to retirement. As such, we are looking only at respondent interest in voluntary nonretirement separations. Data from 2014 and 2017 were merged by respondent, based on e-mail address. Data management included first identifying any respondents whose e-mail address changed from 2014 to 2017; this was done on the basis of agency and name ($n = 477$). Next, we selected staff who had responded to PH WINS in both years ($n = 7289$). This necessarily does not include respondents who did not respond in 2014 or 2017, whether due to choosing not to respond or being ineligible to participate (eg, because they had left the agency). We included respondents from all settings, including state health agency–central offices (SHA-COs) ($n = 4543$), Big Cities Health Coalition local health departments (BCHC-LHDs)²² ($n = 788$), and other local health departments/regional health departments (LHDs/RHDs) ($n = 1958$).

Descriptive statistics were created, and bivariate comparisons were made on the basis of year and concordance/discordance in intent to leave between 2014 and 2017. An inferential longitudinal model was built that examined associations of intent to leave over time and by a number of covariates of interest. The final model was longitudinal with a binary outcome of intent to leave regressed on numerous demographic and perception variables informed by previous research on PH WINS 2014 data.¹⁷ Three factors were generated from the workplace environment variables²³: employee engagement, satisfaction with supervisor, and organizational support. Other independent variables included in the final model were job and pay satisfaction, gender, age, highest academic degree, tenure in agency, race/ethnicity, job classification, supervisory status, year, and setting. Model selection was informed by the Akaike information criterion and the Bayesian information criterion and included random effects clustered at the agency level. A quadrature check showed appropriate selection of integration points. An additional stratified analysis was conducted among those who had intended to leave in 2014 but no longer did in 2017. The dependent variable is reversed in this model—it becomes an “intent-to-stay” analysis among those previously considering leaving. The independent variables were similar. All data management and analysis were performed in Stata 15.1 (StataCorp LLC, College Station, Texas).

Results

Among the 23 000 respondents in 2014 and 47 000 respondents in 2017, 7289 responded in both years. Analysis of demographics changes in the panel of

respondents over time shows some changes (Table 1). Approximately 16% of respondents reported a higher level of supervisory status in 2017 compared with 2014, and both average age and tenure increased as expected during the 3-year period. Reported gender was consistent for more than 99% of respondents. Race/ethnicity was significantly less stable. While the overall proportions were relatively consistent year to year, within-subjects variation was substantial for some groups. For instance, 94% of staff members who indicated they were Asian did so in both years. This was 96% for non-Hispanic white respondents, 93% for black/African American respondents, 84% for Hispanic/Latino respondents, 70% for American Indian/Alaskan Native respondents, 64% for Native Hawaiian/Pacific Islander respondents, and 64% for 2 or more race respondents. Staff salaries increased between the 2 years ($P < .001$). Overall, 33% reported earning more than \$65 000 in 2014 and 43% reported this in 2017.

Among all staff members responding in 2014 and 2017, 15% said they were considering leaving in 2014 compared with 26% in 2017 ($P < .001$). At the SHA-CO level, 17% said they were considering leaving in 2014 compared with 28% in 2017. This was 14% in 2014 and 27% in 2017 for BCHC-LHD staff, and 11% in 2014 and 21% in 2017 for other LHD/RHD staff members. Overall, 21% of those who were not considering leaving in 2014 indicated they were doing so in 2017. Comparatively, 57% of those considering leaving in 2014 said they were still considering it in 2017. This varied somewhat by setting (Figure 1). At the SHA-CO setting, 59% of those considering leaving in 2014 again said they were in 2017 compared with 22% who had not been considering leaving in 2014. This was 54% and 23% for the BCHC-LHD respondent pool and 55%/16% for the other LHD pool, respectively.

In examining the correlates of intent to leave in previous work,¹⁷⁻¹⁹ a strong association was found with a number of workplace environment and satisfaction items. Table 2 presents a cross-tabulation of the change to select workplace environment items from 2014 to 2017 and the overall intent to leave in 2017. This cross-tabulation explores whether intent to leave status in 2017 was associated with any change in a given workplace item in a bivariate comparison. For instance, “Creativity and innovation are rewarded” had the largest difference; among those indicating they were not considering leaving in 2017, 18% had improved their view on “Creativity and innovation are rewarded” from 2014. Comparatively, among those saying they were considering leaving in 2017, 9% had improved their rating on creativity since 2014. Of 17 items measured,

TABLE 1
Demographics and Workforce Characteristics Among Staff Members Responding to PH WINS in 2014 and 2017 (n = 7289)

	2014	2017
Supervisory status^a		
Nonsupervisor	70%	65%
Supervisor	17%	20%
Manager	11%	13%
Executive	2%	3%
Race/ethnicity		
American Indian	1%	1%
Asian	5%	5%
Black/African American	12%	12%
Hispanic/Latino	8%	8%
Native Hawaiian/Pacific Islander	0%	0%
White	70%	70%
≥2 races	5%	5%
Age,^a y		
21-30	6%	2%
31-40	18%	16%
41-50	29%	26%
51-60	36%	36%
61+	10%	20%
Tenure in current position,^a y		
0-5	55%	47%
6-10	23%	23%
11-15	11%	14%
16-20	5%	8%
21+	6%	8%
Tenure in current agency,^a y		
0-5	32%	19%
6-10	24%	23%
11-15	17%	20%
16-20	11%	15%
21+	16%	22%
Highest degree		
No college degree	18%	16%
Associate	13%	14%
Bachelor's	35%	35%
Master's	27%	28%
Doctoral	7%	7%
Annualized salary^a		
<\$25 000	5%	2%
\$25 000-\$35 000	13%	10%
\$35 001-\$45 000	16%	13%
\$45 001-\$55 000	19%	16%
\$55 001-\$65 000	15%	15%

(continues)

TABLE 1
Demographics and Workforce Characteristics Among Staff Members Responding to PH WINS in 2014 and 2017 (n = 7289) (Continued)

	2014	2017
\$65 001-\$75 000	12%	14%
\$75 001-\$85 000	9%	10%
\$85 001-\$95 000	5%	7%
>\$95 000	7%	12%

Abbreviation: PH WINS, Public Health Workforce Interests and Needs Survey.
^aStatistically significantly different between 2014 and 2017 at $P < .05$. Included in this table are staff who responded to the PH WINS in 2014 and 2017.

14 saw a statistically significant change in “percent improved” among respondents saying they were considering leaving in 2017 versus not considering leaving in 2017.

A longitudinal model was constructed to examine the correlates of intent to leave over time (Figure 2). The dependent variable was intent to leave, defined as considering leaving the organization in the following year. Key findings include that those who were not somewhat or very satisfied with their job had an odds ratio (OR) of 3.5 times for considering leaving compared with those who were somewhat/very satisfied (95% CI, 2.8-4.3; $P < .001$), and being not satisfied with pay had 90% higher odds of intent to leave (OR = 1.9; 95% CI, 1.6-2.1; $P < .001$). The workplace engagement factor variables were all inversely related to

intent to leave ($P < .001$ on all). Demographics also were a factor, as being younger or older than the reference group of 35 to 54 years was associated with higher (OR = 2.0; 95% CI, 1.6-2.6; $P < .001$) and lower (OR = 0.5; 95% CI, 0.4-0.6; $P < .001$) intent to leave than the referent, respectively. In addition, the odds of considering leaving were 30% higher for people of color, all else being equal (OR = 1.3; 95% CI, 1.1-1.5; $P < .001$). Ascending educational attainment was associated with higher intent to leave; for those with the highest degree as a bachelor’s degree, the OR was 1.3 (95% CI, 1.1-1.6; $P = .006$) compared with those with less than a bachelor’s degree. Among those with a graduate degree, the OR, compared with those without a bachelor’s degree, was 1.6 (95% CI, 1.2-2.0; $P < .001$). Tenure, supervisory status, and gender were not statistically significantly associated with intent to leave, all else being equal. There was also a significant year-based effect observed, indicating a higher likelihood of considering leaving in 2017 compared with 2014.

An additional analysis was conducted among the 973 staff members who said they were considering leaving in 2014 but remained at their agency in 2017. Approximately 43% of those who reported they were considering leaving in 2014 reported they were not considering leaving in 2017. A logistic model was fit, where the dependent variable was whether staff said they were no longer considering leaving in 2017 (Table 3). This represents an inverted dependent

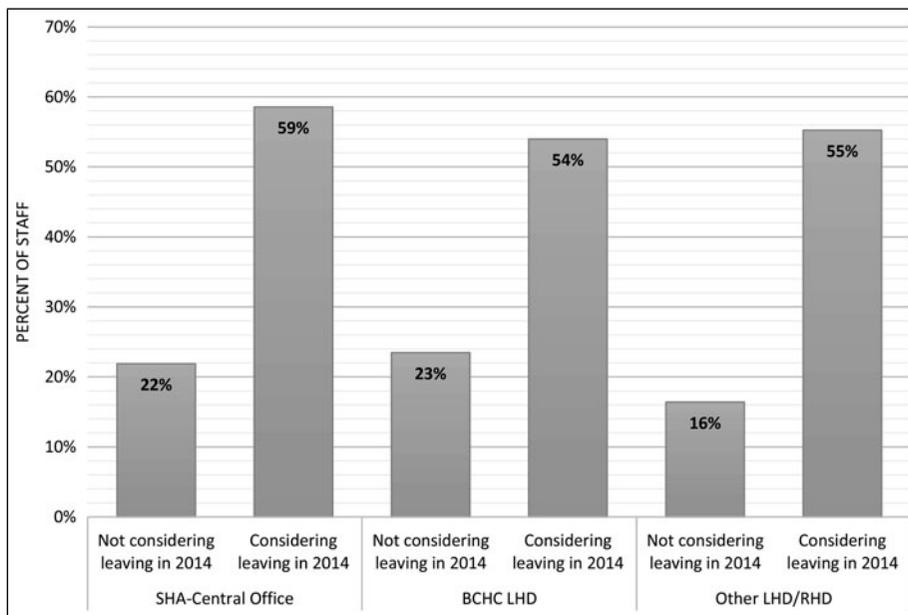


FIGURE 1 Intent to Leave in 2017 by Initial Intent to Leave (in 2014), by Setting^a
 Abbreviations: BCHC, Big Cities Health Coalition; LHD, local health department; RHD, regional health department; SHA, state health agency.
^aThe bar heights represent percentage of staff who are considering leaving in 2017 by whether they were considering leaving in 2014, as well (n = 7289).

TABLE 2
Cross-tabulations of Intent to Leave in 2017 by Change in Workplace Environment Perceptions From 2014 to 2017

	Not Considering Leaving in 2017		Considering Leaving in 2017	
	Improve From 2014	Worsen From 2014	Improve From 2014	Worsen From 2014
I know how my work relates to the agency's goals and priorities ^a	8%	7%	11%	13%
The work I do is important ^a	3%	3%	6%	8%
Creativity and innovation are rewarded ^a	18%	16%	9%	19%
Communication between senior leadership and employees is good in my organization ^a	18%	16%	9%	21%
Supervisors/team leaders work well with employees of different backgrounds ^a	13%	13%	12%	24%
Supervisors/team leaders in my work unit support employee development ^a	13%	12%	10%	24%
My training needs are assessed ^a	18%	14%	12%	20%
Employees learn from one another as they do their work	10%	8%	11%	18%
My supervisor provides me with opportunities to demonstrate my leadership skills	14%	12%	13%	22%
I feel completely involved in my work ^a	9%	8%	11%	21%
I am determined to give my best effort at work every day ^a	4%	3%	5%	8%
I am satisfied that I have the opportunities to apply my talents and expertise ^a	14%	12%	10%	22%
My supervisor and I have a good working relationship	8%	8%	11%	21%
My supervisor treats me with respect ^a	8%	7%	12%	19%
I recommend my organization as a good place to work ^a	13%	12%	7%	25%
Somewhat/very satisfied with job ^a	8%	7%	10%	27%
Somewhat/very satisfied with pay ^a	15%	14%	10%	18%

Percentages represent the percentage of staff in a particular intent to leave group for 2017 (not considering leaving, considering leaving) and how their perceptions changed for selected workplace environment variables, measured as percent different from 2014 to 2017.

^aDifference is statistically significantly different at $P < .05$ for "Improve from 2014" between "Not considering leaving in 2017" and "Considering leaving in 2017."

variable from the previous model. Worse job satisfaction was associated with significantly lower odds of this occurring (OR = 0.48; 95% CI, 0.3-0.8; $P = .01$), although improved pay satisfaction was positively correlated with staff saying they no longer were considering leaving in 2017 (OR = 1.6; 95% CI, 1.1-2.5; $P = .03$). Improvements in satisfaction with their supervisor and organizational support were positively associated with no longer considering leaving ($P < .001$ and $P = .01$, respectively). Employee engagement, gender, age, educational attainment, tenure, job classification, and setting were not statistically significantly associated with the outcome of interest. Getting at least one promotion in supervisory status was associated with no longer considering leaving in 2017 (OR = 2.1; 95% CI, 1.4-3.2; $P < .001$).

Discussion

The available information on those leaving the governmental workforce is evolving, particularly for the governmental public health workforce. Understanding intentions to leave and action on those intentions has greater priority for the governmental public health

workforce than other sectors, because the resulting vacant positions may not be filled or may be filled at a lower salary. For example, even when there was economic recovery from the 2008 recession, the size of the governmental public health workforce did not enjoy a similar recovery.⁵

Prior to 2014, national retirement data for the governmental public health workforce were primarily based on the proportion of the workforce who had reached retirement age. With the creation and implementation of PH WINS, a representative sample of governmental public health workers reported on their intent to leave their positions for retirement and non-retirement situations. Analyses using 2014 data provided a first-of-its-kind assessment of the predictors of intent to leave among governmental public health workers. The present study builds and evolves this literature by reporting on the first-of-its-kind longitudinal assessment of intent to leave among governmental public health workers using a cohort of respondents with matched responses in 2014 and 2017.

This study clearly demonstrates that changes in organizational and supervisory support can alter intentions to leave and be a path to retention. Those who

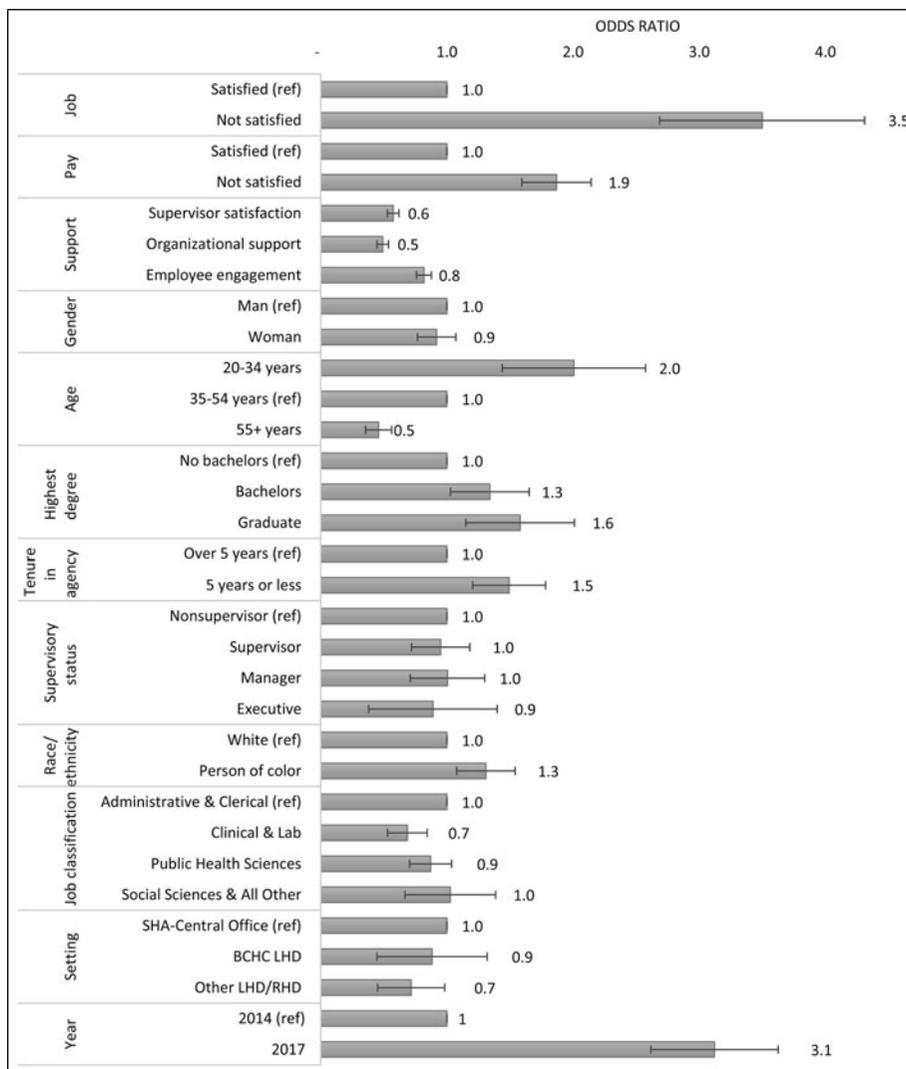


FIGURE 2 Results of Longitudinal Logistic Regression Examining Correlates of Intent to Leave, 2014-2017^a
 Abbreviations: BCHC, Big Cities Health Coalition; LHD, local health department; RHD, regional health department; SHA, state health agency.
^aError bars represent 95% confidence interval. Not pictured is the constant (OR = 0.04; 95% CI, 0.03-0.05). The “support” variables are factor variables constructed from workplace engagement perceptions. The dependent variable is whether the respondent is considering leaving his or her organization in the next year.

were considering leaving in 2017 experienced greater worsening of workplace conditions and more limited experience with improving conditions than those who were not considering leaving in 2017. Lower job satisfaction was associated with a more than 3-fold influence on intent to leave.

Pay satisfaction is regularly cited as an influential predictor of intent to leave.^{9,24} This is challenging in a governmental context, as merit increases are limited and salary is often dictated by collective bargaining agreements and centralized governmental pay increases. Pay satisfaction is and likely will continue to be low among the governmental public health workforce. However, possibly due to the mission-driven nature of the governmental public health workforce, increasing salary is not the only way to convince

valued workers to stay. In a group of respondents considering leaving in 2014 but not in 2017, improved satisfaction with the worker’s organization and supervisor had comparable impacts on changing intentions to leave as pay satisfaction.

Many of the factors associated with considering leaving are within the control of leadership—promoting workers to new levels of supervisory responsibility (or at least creating professional development plans) and improving factors in the workplace environment can make a real difference. Workers who wanted to leave in 2014 were more likely to decide to stay in 2017 if they worked in a place where creativity and innovation were rewarded, where internal communications were effective, where their training needs were assessed as well as their professional

TABLE 3
Logistic Regression of Correlates of Intent to Stay Among Those Who Were Considering Leaving in 2014 and Not Considering Leaving in 2017

	Odds Ratio (95% CI)	P
Job satisfaction		
Same (ref)		
Improve	1.30 (0.9-1.9)	.20
Worsen	0.48 (0.3-0.8)	.01
Pay satisfaction		
Same (ref)		
Improve	1.61 (1.1-2.5)	.03
Worsen	1.48 (0.9-2.4)	.11
Supervisor satisfaction ^a		
Worsen (ref)		
Improve	1.85 (1.3-2.6)	<.001
Organizational support ^a		
Worsen (ref)		
Improve	1.56 (1.1-2.2)	.01
Employee engagement ^a		
Worsen (ref)		
Improve	0.79 (0.6-1.1)	.16
Gender		
Male (ref)		
Female	0.87 (0.6-1.3)	.48
Age, y		
20-34	1.33 (0.9-2)	.19
34-54 (ref)		
55+	1.05 (0.7-1.6)	.82
Highest degree		
No bachelor's (ref)		
Bachelor's	0.70 (0.5-1.1)	.10
Graduate	0.70 (0.4-1.1)	.12
Tenure in agency (as of 2014), y		
>5 (ref)		
<5	0.80 (0.6-1.1)	.21
Promotion in supervisory status		
No promotion (ref)		
Promotion	2.13 (1.4-3.2)	<.001
Race/ethnicity		
White (ref)		
Person of color	0.70 (0.5-1)	.04
Job classification		
Administrative and clerical (ref)		
Clinical and lab	0.94 (0.6-1.5)	.79
Public health sciences	1.30 (0.9-2)	.21
Social services and all other	0.88 (0.5-1.6)	.68

(continues)

TABLE 3
Logistic Regression of Correlates of Intent to Stay Among Those Who Were Considering Leaving in 2014 and Not Considering Leaving in 2017 (Continued)

	Odds Ratio (95% CI)	P
Setting		
SHA-CO (ref)		
BCHC-LHD	1.54 (0.9-2.6)	.12
Other LHD/RHD	1.15 (0.8-1.7)	.50
Constant	0.49 (0.3-0.9)	.03

Abbreviations: BCHC-LHD, Big Cities Health Coalition local health department; LHD, local health department; RHD, regional health department; SHA-CO, state health agency—central office.

^aFactor variable.

development was taken seriously, and where employees were perceived as being treated with respect. These data provide a clear mandate to leaders who want to increase retention in health departments to improve workers' satisfaction with their organizations and supervisors and give some specific areas to focus on when doing so.

While pay satisfaction may be outside of the control of leadership, job satisfaction and the other employee engagement indicators are not. Governmental public health leaders should focus their energy on reviewing and devising strategies to influence key workplace perceptions. Addressing these workplace perceptions has shown promise in other industries, including nursing, academia, and other private sectors,²⁵⁻²⁸ and formative work in addressing these workplace perceptions in governmental public health agencies has resulted in publicly available examples.²⁹ While much attention in governmental public health departments focuses on disease outcomes, improvements in community health outcomes cannot be achieved without a well-trained and competent governmental public health workforce. Therefore, prioritizing improvements in employees' satisfaction with their organizations and their supervisors must be considered as an equal strategy to achieve community health improvement as any other traditional public health intervention.

While many solutions have been proposed to address employee turnover, relatively few are rigorously tested and measured. A recent Japanese study of employee turnover found merit-based rewards were positively associated with retention, although the effect was moderated by gender and job satisfaction.³⁰

Limitations

The study has 2 major limitations worth remarking on. First, this article should necessarily be viewed

Implications for Policy & Practice

- Alongside its recovery from the Great Recession, the public health workforce has had to contend with increasing interest in voluntary separations.
- Improving pay satisfaction, job satisfaction, and organizational satisfaction is associated with a worker's deciding to stay at an organization.
- While pay satisfaction may be outside of the control of leadership, job satisfaction and the other employee engagement indicators are amenable to changes from leadership.
- Governmental public health leaders should focus their energy devising and implementing strategies to influence key workplace perceptions when it is not possible to make pay offerings competitive with the private sector.

as generalizable to those actively considering leaving their organization, as opposed to those who have actually left their organization. We examine the changes in perceptions from 2014 through 2017 among those who (1) were at their organization at both time points and (2) responded to PH WINS at both times. While sensitivity analyses did not reveal systematic differences in respondents versus nonrespondents in 2017 (compared with their characteristics in 2014), non-response bias is potentially an issue. Moreover, because we are analyzing respondents from both 2014 and 2017, the generalizability to local respondents is somewhat limited, as the 2014 fielding treated the local frame as a pilot endeavor—it was not a nationally representative sample.²⁰ However, consistency in findings across groups—SHA-COs, BCHC-LHDs, and other LHDs—ameliorates some of this concern. In addition, the 2014 instrument did not have any items related to how active respondents were in potentially leaving their job (eg, whether they were applying for other jobs). This was added in 2017 and so will be useful for future analyses. However, this is an important limitation.

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