

Job Satisfaction and Expected Turnover Among Federal, State, and Local Public Health Practitioners

Jonathon P. Leider, PhD, Elizabeth Harper, DrPH, Ji Won Shon, MSPH, Katie Sellers, DrPH, CPH, and Brian C. Castrucci, MA

Objectives. To use data on the governmental public health workforce to examine demographics and elucidate drivers of job satisfaction and intent to leave one's organization.

Methods. Using microdata from the 2014 Federal Employee Viewpoint Survey and 2014 Public Health Workforce Interests and Needs Survey, we drew comparisons between federal, state, and local public health staff. We fitted logistic regressions to examine correlates of both job satisfaction and intent to leave one's organization within the coming year.

Results. Correlates of job satisfaction included pay satisfaction, organizational support, and employee involvement. Approximately 40% of federal, state, and local staff said they were either considering leaving their organization in the next year or were planning to retire by 2020.

Conclusions. Public health practitioners largely like their jobs, but many are dissatisfied with their pay and are considering working elsewhere. More should be done to understand the determinants of job satisfaction and how to successfully retain high-quality staff.

Public Health Implications. Public health is at a crossroads. Significant turnover is expected in the coming years. Retention efforts should engage staff across all levels of public health. (*Am J Public Health.* 2016;106:1782–1788. doi:10.2105/AJPH.2016.303305)

The mission of public health is to prevent disease, promote health, and prolong life for the United States population through the core functions of public health (assessment, policy development, and assurance).^{1–4} To fulfill this mission, there are approximately 300 000 public health employees at the federal, state, and local levels.⁵ The governmental public health workforce comprises federal (20%), state (30%), and local health department employees (50%).⁵ Each of these groups makes essential contributions to the public health enterprise. A recent study found that 38% of state health agency (SHA) employees intend to leave governmental public health before 2020.⁶ However, the number of local and federal public health employees planning to leave is not well studied,⁶ although the consequences of employee turnover are well documented. High levels of employee turnover lead to a loss of expertise and institutional knowledge, high costs to the organization, and a decrease in organizational

performance.^{7–9} Retaining institutional knowledge through employees is especially important in the public sector, which undergoes high levels of change.¹⁰ Additionally, the cost to recruit and train new employees can amount to 50% to 200% of the employee's annual salary.¹¹ Furthermore, organizational and individual performance suffers because workers who intend to leave are less efficient and effective in their job roles.¹²

Studies show that a variety of factors contribute to turnover and can be categorized into external, work-related, and personal factors.^{7,12,13} Two external factors related to intent to leave are perception of job

alternatives, which is positively related to turnover, and the presence of a union, which is negatively related to turnover.^{7,9,12–16} Pay satisfaction was consistently identified as an important factor in intent to leave; 29 of 32 studies in a meta-analysis showed a negative association.¹³ Finally, personal factors such as age, education, number of dependents, health status, and race/ethnicity have been significantly related to turnover and intent to leave.¹³ Although there are many contributors to workers' intent to leave, a review of the literature shows a consistently negative relationship between worker turnover and job satisfaction.^{14,17,18} Although the field is beginning to study this area among SHA workers,^{14,19} relatively little is known about local or federal level job satisfaction or intent to leave. We address that gap.

METHODS

This project examined public health practitioner perceptions of the workplace environment and job satisfaction among respondents from 4 groups: a nationally representative sample of employees from the Centers for Disease Control and Prevention (CDC), a nationally representative sample of central office employees from SHAs, a large convenience sample of staff from some of the largest local health departments (LHDs) in the country, and a large convenience sample of

ABOUT THE AUTHORS

At the time of the study, Jonathon P. Leider and Brian C. Castrucci were with the de Beaumont Foundation, Bethesda MD. Elizabeth Harper and Katie Sellers were with the Association of State and Territorial Health Officials, Arlington, VA. Ji Won Shon was with the Department of Health Policy and Management, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD.

Correspondence should be sent to Jonathon P. Leider, 7501 Wisconsin Ave #1310e, Bethesda, MD 20814 (e-mail: leider@gmail.com). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

This article was accepted June 4, 2016.
doi: 10.2105/AJPH.2016.303305

staff from smaller local and regional health departments (RHDs) across the United States.

Data for this analysis came from 2 primary sources: the Federal Employee Viewpoint Survey (FEVS) and the Public Health Workforce Interests and Needs Survey (PH WINS). FEVS, which is conducted annually by the US Office of Personnel Management, examines perceptions of workplace environment and job satisfaction among all federal employees nationwide.²⁰ Sampling frames were constructed to create estimates with a margin of error of $\pm 1\%$. In spring 2014, FEVS was sent as a Web-based survey to 839 788 federal government staff across all agencies and departments; the population was 1 771 301 federal full-time and part-time permanent, nonseasonal employees. FEVS had a government-wide 46.8% response rate. The CDC's response rate was 61.1%.

PH WINS, the second major source of data used in the analyses, was conducted in fall 2014 by the Association of State and Territorial Health Officials and the de Beaumont Foundation.²¹ PH WINS consisted of several distinct sample frames: a nationally representative sample of employees of the SHAs' Central Office (as opposed to LHDs or RHDs); a frame of member agencies of the Big Cities Health Coalition (BCHC), a membership organization of the 28 largest LHDs in the country; and a local pilot frame, which included a convenience sample of staff from LHDs and RHDs in all participating states. We constructed the nationally representative SHA frame on the basis of 5 paired Department of Health and Human Services regions to allow for estimates with a margin of error of $\pm 2.5\%$ at the regional level and a smaller margin of error nationally. We sent approximately 25 000 of 42 000 Central Office employees a Web-based invitation to participate in PH WINS. Of those, 10 794 responded—a 46% response rate after accounting for sampled staff who had left their position and those with incorrect contact information. We excluded approximately 550 temporary employee respondents from analyses in this article, which yielded a final sample of 10 246 permanently employed central office staff. Approximately 2400 permanently employed staff responded from 14 participating BCHC LHDs. At the time of the study, 20 LHDs constituted the BCHC. Several others have since joined.

With the exception of 1 very large LHD, staff in this frame were surveyed as part of a census approach, with all staff in the agency surveyed. The final frame—the local health department pilot—consisted of a mix of fielding approaches in an attempt to ascertain the most efficacious way to survey local health department staff; in this article, we treat it as a large convenience sample with modest generalizability to the LHD workforce nationwide.²² Approximately 8500 permanently employed LHD or RHD staff participated in this pilot.

Because the job satisfaction and workplace environment domains from PH WINS were based on FEVS, direct comparisons may be drawn between the various groups of respondents (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>), although only 2 frames (FEVS–CDC and PH WINS–SHA Central Office) are truly nationally representative.²¹ We calculated descriptive and inferential statistics. We conducted 2 logistic regressions. The first model characterized correlates of job satisfaction, for which we dichotomized responses as “somewhat satisfied” or “very satisfied” versus “somewhat dissatisfied,” “very dissatisfied,” or “neither satisfied nor dissatisfied.” Independent variables included gender, age, educational attainment, pay satisfaction, length of tenure, supervisory status, race/ethnicity, setting (local, state, or federal), and measures of organizational support and employee involvement. These last 2 measures were previously created through a factor analysis of workplace environment items.²³ We dichotomized supervisory status into “nonsupervisors” (including informal team leaders) and “supervisors and higher” (supervisors, managers, and executives).

The second model looked at intent to leave in the next year as the primary outcome of interest. Independent variables were the same as in the first model, with the addition of job satisfaction. The first model explained variance in job satisfaction reasonably well (pseudo $R^2 = 0.3451$). We were therefore concerned that the addition of a job satisfaction variable into the second model (looking at intent to leave) would introduce collinearity into the model. However, specification tests and other analyses did not suggest significant collinearity (variance inflation factor = 5.8 for job satisfaction and 2.4

overall). We constructed models using previously published approaches; we loaded workplace environment items into 2 factors (organizational support and employee involvement) and rotated them using varimax rotation.²³ We used Taylor series linearization to employ sampling and non-response weights for both FEVS and PH WINS data. We conducted bivariate comparisons using a design-corrected Pearson χ^2 or Tukey test for multiple comparisons, as appropriate. We analyzed and managed data with Stata version 13 (StataCorp LP, College Station, TX).

RESULTS

Overall, the federal and SHA Central Office workforces differed from each other across almost every demographic variable tracked across FEVS and PH WINS (Table 1). We also observed differences between respondents from BCHC LHDs and those from other LHDs and RHDs. The CDC had the lowest proportion of staff who were supervisors or higher, but it had the highest proportion who made more than \$75 000 a year and the highest proportion who had been with the agency for 5 years or more. Compared with CDC employees, a higher proportion of SHA Central Office staff were female ($P < .001$), younger than 50 years ($P < .001$), and non-Hispanic White ($P < .001$). A higher proportion of CDC staff had bachelor's and graduate degrees compared with other groups. Compared with the staff of other LHDs and RHDs, BCHC staff tended to be younger, better educated, and more diverse, and a significantly higher proportion were paid more than \$75 000.

Perceptions of the Workplace Environment

Overall, staff across the 4 frames responded similarly to questions about their workplace environment (Table 2). Across all groups, approximately 90% of staff said they felt the work they did was important and between 60% and 65% felt their workload was reasonable. In general, 75% of CDC staff recommended their organization as a good place to work. This was higher than for other

TABLE 1—Demographics of Survey Respondents (Unweighted): Federal Employee Viewpoint Survey and Public Health Workforce Interests and Needs Survey, United States, 2014

Characteristic	CDC (n = 6 562), No. (%)	State Central Office (n = 10 246), No. (%)	BCHC LHDs (n = 2 438), No. (%)	Other LHDs and RHDs (n = 8 541), No. (%)
Supervisors or higher	1 247 (19)	3 381 (33)	707 (29)	2 135 (25)
Have annualized earnings > \$75 000	3 872 (59)	3 893 (38)	1 121 (46)	1 537 (18)
Have been in the same organization ≥ 5 y	4 856 (74)	6 660 (65)	1 707 (70)	5 722 (67)
Are considering leaving their organization in the next year	1 837 (28)	2 664 (26)	536 (22)	1 794 (21)
Are planning to retire before 2020	1 247 (19)	2 459 (24)	536 (22)	2 050 (24)
Are aged ≥ 50 y	2 953 (45)	4 098 (40)	878 (36)	3 587 (42)
Have a bachelor's degree	5 709 (87)	7 685 (75)	1 780 (73)	5 210 (61)
Have a master's degree	4 462 (68)	4 303 (42)	1 000 (41)	1 794 (21)
Have a public health degree (any level)	NA ^a	1 642 (16)	410 (17)	532 (6)
Are non-Hispanic White	3 740 (57)	7 172 (70)	707 (29)	6 064 (71)
Are female	3 937 (60)	7 377 (72)	1 829 (75)	7 174 (84)

Note. BCHC = Big City Health Coalition; CDC = Centers for Disease Control and Prevention; LHD = local health department; NA = not applicable; RHD = regional health department.

^aEstimate is not available as it was not asked on the Federal Employee Viewpoint Survey.

groups—among SHA Central Office staff, 63% would recommend their organization as a good place to work. Differences by race/ethnicity were not significant in any groups except for the respondents of BCHC LHDs, among whom 70% who were people of color said they would recommend their agency as a good place to work compared with 62% of non-Hispanic White staff.

TABLE 2—Workplace Environment Measures in the Governmental Public Health Workforce: Federal Employee Viewpoint Survey and Public Health Workforce Interests and Needs Survey, United States, 2014

Workplace Environment and Job Satisfaction Items ^a	CDC (n = 6 562), No. (%)	State Central Office (n = 10 246), No. (%)	BCHC LHDs (n = 2 438), No. (%)	Other LHDs and RHDs (n = 8 541), No. (%)
I know how my work relates to the agency's goals and priorities	5 539 (84)	8 667 (85)	2 124 (87)	7 462 (87)
The work I do is important	5 813 (89)	9 513 (93)	2 252 (92)	8 090 (95)
Creativity and innovation are rewarded	3 261 (50)	4 005 (39)	1 014 (42)	3 271 (38)
Supervisors or team leaders work well with employees of different backgrounds	4 526 (69)	7 312 (71)	1 699 (70)	6 421 (75)
Supervisors or team leaders in my work unit support employee development	4 767 (73)	7 192 (70)	1 659 (68)	6 120 (72)
My training needs are assessed	3 303 (50)	4 580 (45)	1 200 (49)	4 843 (57)
My supervisor supports my need to balance work and family issues	5 536 (84)	8 616 (84)	1 814 (74)	7 292 (85)
My workload is reasonable	3 982 (61)	6 342 (62)	1 546 (63)	5 540 (65)
My supervisor or team leader provides me with opportunities to demonstrate my leadership skills	4 658 (71)	6 783 (66)	1 582 (65)	5 713 (67)
I am satisfied that I have the opportunities to apply my talents and expertise	3 908 (60)	6 639 (65)	1 584 (65)	5 812 (68)
My supervisor or team leader treats me with respect	5 465 (83)	8 453 (83)	1 949 (80)	7 149 (84)
I recommend my organization as a good place to work	4 922 (75)	6 454 (63)	1 649 (68)	5 835 (68)
Somewhat or very satisfied with job	4 632 (71)	8 089 (79)	1 977 (81)	7 048 (83)
Somewhat or very satisfied with organization	4 421 (67)	6 651 (65)	1 689 (69)	5 891 (69)
Somewhat or very satisfied with pay	4 299 (66)	4 968 (48)	1 471 (60)	3 546 (42)

Note. BCHC = Big City Health Coalition; CDC = Centers for Disease Control and Prevention; LHD = local health department; RHD = regional health department.

^aCells represent weighted proportion of staff that agreed or strongly agreed with a statement (items 1–12) or were somewhat or very satisfied (items 13–15).

Differences by gender were not statistically significant, except that among staff of other LHDs and RHDs, 64% of men recommended their organization as a good place to work compared with 69% of women ($P = .003$).

Job Satisfaction

Respondents to FEVS and PH WINS were asked about their satisfaction with their job, organization (i.e., health department or CDC), and pay (Table 2). SHA Central Office staff had the lowest satisfaction with their organization at 65%, compared with 67% among CDC staff and 69% for both BCHC LHDs and other LHDs and RHDs. Pay satisfaction varied considerably across all groups, as well as by several demographic characteristics. Staff at the CDC were most satisfied with their pay (66%), compared with SHA Central Office staff (48%), BCHC LHD staff (60%), and other LHD and RHD staff (42%; all pairwise comparisons $P < .001$). Differences in pay satisfaction were not statistically significant by gender, but were by race/ethnicity. Non-Hispanic White staff uniformly rated their pay satisfaction higher than staff who were people of color, by 10 percentage points at the CDC ($P < .001$), 7 percentage points at SHA Central Office ($P < .001$), 7 percentage points at BCHC LHDs ($P = .010$), and 6 percentage points at other LHDs and RHDs ($P > .001$). CDC staff had the lowest job satisfaction, with 71% of staff saying they were somewhat or very satisfied with their job, compared with 79% of SHA Central Office staff, 83% of other LHD and RHD staff, and 81% of BCHC LHD staff.

Job satisfaction was not statistically significantly different by gender, except among CDC staff (73% among men vs 69% among women; $P = .004$), nor by race/ethnicity, except among SHA Central Office employees (23% of non-White Hispanic staff vs 20% of staff who were people of color; $P = .012$).

Given variation in job satisfaction by several characteristics of interest, we ran a logistic regression, with job satisfaction (somewhat or very satisfied with job) as the outcome of interest (Table 3). We observed correlations between independent variables of interest and job satisfaction. Those who were somewhat or very satisfied with their pay had 3 times the odds of being satisfied

with their job, all else being equal (adjusted odds ratio [AOR] = 3.11; 95% confidence interval [CI] = 2.78, 3.49). Both perceptions of organizational support and employee involvement were associated with a higher likelihood of being satisfied with one's job. All else being equal, gender, age, race, educational attainment, organizational tenure, and supervisory status were not associated with higher or lower odds of job satisfaction. Compared with CDC staff, all other staff had higher odds (AOR range = 2.32–2.92) of being satisfied with their job.

Intent to Leave

We captured intent to leave both for those planning to retire and for those considering leaving their organization in the next year. About 19% of CDC staff respondents said they were planning to retire before 2020, compared with 24% at SHA Central Office, 22% in BCHC LHDs, and 24% in other LHDs and RHDs (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>).

A little over a quarter of the staff at the CDC and SHA Central Office said they were considering leaving their organization in the next year, compared with a little more than a fifth of LHD respondents. Excluding those planning to retire by 2020, among those younger than 40 years, 30% of CDC, SHA Central Office, and BCHC LHD respondents indicated that they were considering leaving in the next year, compared with 24% of other LHD and RHD respondents. Among PH WINS respondents (SHA Central Office, BCHC, and other LHDs and RHDs) who were not planning to retire by 2020, 5% of staff indicated that they were considering leaving for another job elsewhere in governmental public health, 3% for a government job not in public health, 2% for a non-governmental job in public health, 2% for a nongovernmental job not in public health, and 8% for some other type of job. The intent-to-leave question was not asked the same way in FEVS, so it is unclear what proportion of staff considering leaving would stay within governmental public health. Among CDC employees in the FEVS not planning to retire by 2020, 16% planned to take another job in the federal government, 4.5% planned to take another job outside

the federal government, and 5% indicated “other.” Overall, approximately 40% of federal staff, 42% of SHA Central Office staff, 38% of BCHC LHD respondents, and 38% of other LHD and RHD respondents said they were either considering leaving their organization in the next year or were planning to retire by 2020.

Correlates of Intent to Leave

Previous literature on public health practitioners has shown a connection between job satisfaction and intent to leave one's position, for retirement or otherwise. We therefore extended the previous logistic regression model to include considering leaving one's organization in the next year as the outcome of interest, and we added job satisfaction to the list of independent variables (Table B, available as a supplement to the online version of this article at <http://www.ajph.org>). Those who were somewhat or very satisfied with their job had reduced odds of planning to leave their organization in the next year (AOR = 0.37; 95% CI = 0.33, 0.41). Similarly, those who were satisfied with their pay, had higher levels of organizational support, and felt more employee involvement were much less likely to indicate they were considering leaving their organization in the next year for reasons other than retirement. Supervisory status was not statistically significantly associated with intent to leave. Women were less likely than men to say they were considering leaving (AOR = 0.81; 95% CI = 0.77, 0.85), as were non-Hispanic Whites compared with staff who were people of color (AOR = 0.91; 95% CI = 0.83, 1.0). Compared with those younger than 50 years, staff aged 50 years and older were less likely to indicate they were considering leaving (AOR = 0.89; 95% CI = 0.81, 0.98), as were those who had been in their organization 5 years or more compared with those who had been in their organization less than 5 years (AOR = 0.78; 95% CI = 0.71, 0.86). CDC and SHA Central office staff were approximately just as likely to say they were considering leaving, all else being equal. Intent to leave was much less likely among BCHC and LHD or RHD respondents (AOR = 0.84 and 0.85; $P < .009$ and $< .044$, respectively) than among CDC respondents.

TABLE 3—Correlates of Job Satisfaction: Federal Employee Viewpoint Survey and Public Health Workforce Interests and Needs Survey, United States, 2014

Variable	Very Dissatisfied, Somewhat Dissatisfied, or Neither (n = 4 937)	Somewhat or Very Satisfied (18 911)	AOR (95% CI)
Pay satisfaction			
Very dissatisfied, somewhat dissatisfied, or neither (Ref)	3 625	7 720	1
Somewhat or very satisfied	1 312	11 191	3.11 (2.78, 3.49)
Organizational support^a			
			3.63 (3.39, 3.89)
Employee involvement^a			
			2.76 (2.57, 2.97)
Gender			
Male (Ref)	1 342	4 867	1
Female	3 595	14 044	0.94 (0.83, 1.07)
Age, y			
< 50 (Ref)	2 480	9 445	1
≥ 50	2 457	9 466	1.03 (0.91, 1.15)
Highest level of education			
No bachelor's (Ref)	1 246	5 347	1
Bachelor's degree	1 586	6 145	0.91 (0.79, 1.05)
Graduate degree	2 105	7 419	0.90 (0.78, 1.04)
Tenure in organization			
< 5 y (Ref)	1 490	6 220	1
≥ 5 y	3 447	12 691	1.09 (0.96, 1.23)
Supervisory status			
Nonsupervisor (Ref)	3 931	13 375	1
Supervisor or higher	1 006	5 536	0.99 (0.86, 1.13)
Race/ethnicity			
Person of color (Ref)	1 753	6 101	1
Non-Hispanic White	3 184	12 810	1.00 (0.89, 1.12)
Setting			
CDC (Ref)	1 310	3 562	1
SHA Central Office	1 924	7 331	2.32 (2.05, 2.62)
Other LHDs and RHDs	1 309	6 313	2.92 (2.53, 3.36)
BCHC LHDs	394	1 705	2.46 (2.00, 3.02)
Constant			
			2.11 (1.70, 2.62)

Note. AOR = adjusted odds ratio; BCCH = Big City Health Coalition; CDC = Centers for Disease Control and Prevention; CI = confidence interval; LHD = local health department; RHD = regional health department. For unweighted data, n = 23 848; for weighted data, n = 79 423.

^aThese are factor variables.²³

DISCUSSION

This is among the first studies to compare employees from different levels of the governmental public health enterprise—federal, state, and local—in terms of their demographic characteristics; perceptions of the workplace environment; job, organizational, and pay satisfaction; and intent to leave their jobs. Data and analyses showed that, compared with the other groups, federal public health employees tended to be better paid and have more experience in public health, and were more evenly distributed between males

and females. Employees in the big city health departments, on the other hand, were younger and more diverse in terms of race and ethnicity than their counterparts in other LHDs. Both federal and big city health department employees had higher pay and higher levels of education than their SHA Central Office and LHD peers.

This study shows that job satisfaction is among the most critical areas in the retention of public health staff, in line with studies in other fields.^{7,10,12,13,17,24} Younger, more educated, and more diverse staff all indicated

that they were considering looking elsewhere for employment within the next year at higher rates than their colleagues. These results are in line with findings from other sectors as well.⁷ Although it is not clear exactly what proportion will follow through on this inclination, any substantial amount of voluntary turnover in conjunction with a large number of retirees could prove difficult to workforce development efforts. Of the 20% of staff considering leaving at the state or local levels (not for retirement), approximately one third indicated that they would leave for

another position in public health (governmental or nongovernmental), with the remainder ostensibly considering leaving the field.⁶ Arguably, governmental public health staff entering nongovernmental public health, or even bringing a public health perspective to other fields, could be good for population health. Nonetheless, this represents a potential workforce issue for governmental public health. Although evidence suggests that there is a strong pipeline of well-educated individuals that could fill rolls vacated by those leaving or retiring,^{6,25} such an effort may be expensive. Losing young and diverse staff is also potentially problematic in and of itself, and could exacerbate a workforce shortage.^{26–30} These considerations highlight the need for succession planning, as well as purposeful transfer of institutional knowledge and skills from experienced staff who have not yet left or retired.

Future Research Needs

Further research needs to be done to learn exactly what health departments can do to significantly increase the extent to which workers feel supported by the organization and how to replicate the successes of departments where organizational satisfaction is high, as well as to assess any generational differences that may exist in job satisfaction or intent to leave.²⁴ This will be critical to the field as a substantial portion of the governmental public health workforce retires in coming years and younger workers consider leaving the health departments where they currently work. Additionally, it may be worth exploring supervisor versus nonsupervisor differences, and why organizational satisfaction is frequently higher than job satisfaction.

Limitations

This study has several limitations. First, some of the data we used were derived from nationally representative samples (the FEVS data and the SHA Central Office sample frame of PH WINS), but others are better characterized as large convenience samples. Second, it is possible that nonresponse bias exists in the sampling frames, including the federal data. This is especially the case if different levels of satisfaction served as motivation for participation (or not). There was wide variety in job satisfaction rankings across

many settings, but overall self-reported job satisfaction was quite high. Third, during the administration of PH WINS, we learned that many respondents had strong concerns about confidentiality. Although we assured them that the survey was anonymous and that their results would not be shared in a way that would allow their employers to deduce what individual employees reported, their response could still have been biased in favor of higher levels of satisfaction and lower levels of intent to leave. We were not involved with the administration of the federal survey, but we assume that similar bias could exist in the federal data, as well. Finally, although the models appear to explain a reasonable amount of variation, there are very likely other (unmeasured) factors affecting job satisfaction and intent to leave.

Public Health Implications

The governmental public health workforce looks very different in terms of job classifications and educational attainment across federal, state, and local levels. This is in part by design—each has a different role to play in the public health enterprise. Aside from substantial differences in pay satisfaction (favoring the CDC) and organizational satisfaction (favoring state and local agencies), the public health workforce nationwide has similar perceptions about the importance of what they do and engagement with their health agencies. Given the role of engagement in worker retention, health departments would do well to maximize employee perceptions of organizational support. Relatively high proportions of staff at all levels—federal, state, and local—are satisfied with their job. However, a substantial proportion are considering leaving in the next year. Although a robust supply of formally trained public health students graduate from schools and programs in public health each year, a relatively small proportion pursue employment in health agencies.^{25,31} Moreover, the vast majority of staff in state and local health agencies do not have any formal public health training.³²

Health agencies must plan for substantial turnover in coming years—both among scientific–technical and administrative staff. In addition to staff who are looking for jobs elsewhere, a substantial proportion are also

planning to retire by 2020. This represents potentially the biggest churn in the workforce in recent memory. If FEVS and PH WINS data are indeed representative of the public health workforce nationally, then workforce development broadly, and succession planning specifically, will be among the most important tasks administrators can undertake in coming years. Policymakers, funders, and educators also have significant roles to play in supporting the governmental public health workforce into the 21st century, including creating (and funding) a shared workforce development agenda and creating robust programs to recruit and retain the next generation of public health practitioners. **AJPH**

CONTRIBUTORS

J. P. Leider, E. Harper, K. Sellers, and B. C. Castrucci conducted the Public Health Workforce Interests and Needs Survey (PH WINS). J. P. Leider conducted the analysis. J. P. Leider, E. Harper, and J. W. Shon wrote the first draft. K. Sellers and B. C. Castrucci provided project oversight. All authors provided critical review and edits in subsequent drafts.

ACKNOWLEDGMENTS

The de Beaumont Foundation funded the Association of State and Territorial Health Officials to conduct PH WINS. J. P. Leider and J. W. Shon were consultants to the foundation.

We thank peer reviewers for their considered comments that improved the quality of this article.

HUMAN PARTICIPANT PROTECTION

Chesapeake IRB judged PH WINS as exempt and the Federal Employee Viewpoint Survey was approved by the Office of Management and Budget and the Office of Personnel Management.

REFERENCES

1. Institute of Medicine; Committee for the Study of the Future of Public Health. *The Future of Public Health*. Washington, DC: National Academies Press; 1988.
2. Childress JF, Faden RR, Gaare RD, et al. Public health ethics: mapping the terrain. *J Law Med Ethics*. 2002;30(2):170–178.
3. Committee on Public Health Strategies to Improve Health, Institute of Medicine. *For the Public's Health: Investing in a Healthier Future*. Washington, DC: National Academies Press; 2012.
4. Sepulveda J, Lopez-Cervantes M, Frenk J, et al. Key issues in public health surveillance for the 1990s. *MMWR Morb Mortal Wkly Rep*. 1992;41(suppl):61–76.
5. Beck AJ, Boulton ML, Coronado F. Enumeration of the governmental public health workforce, 2014. *Am J Prev Med*. 2014;47(5 suppl 3):S306–S313.
6. Sellers K, Leider JP, Harper E, et al. The Public Health Workforce Interests and Needs Survey: the first national survey of state health agency employees. *J Public Health Manag Pract*. 2015;21(suppl 6):S13–S27.

7. Cho YJ, Lewis GB. Turnover intention and turnover behavior implications for retaining federal employees. *Rev Public Person Adm.* 2012;32(1):4–23.
8. Lewis GB, Cho YJ. The aging of the state government workforce: trends and implications. *Am Rev Public Adm.* 2011;41(1):48–60.
9. Newman SJ, Ye J, Leep CJ. Workforce turnover at local health departments: nature, characteristics, and implications. *Am J Prev Med.* 2014;47(5 suppl 3):S337–S343.
10. Goodman D, French PE, Battaglio RP. Determinants of local government workforce planning. *Am Rev Public Adm.* 2013;Epub ahead of print.
11. *Beneath the Surface: Understanding Attrition at Your Agency and Why It Matters.* Washington, DC: Booz Allen Hamilton; 2010.
12. Mobley WH. *Employee Turnover: Causes, Consequences, and Control.* Boston, MA: Addison-Wesley; 1982.
13. Cotton JL, Tuttle JM. Employee turnover: a meta-analysis and review with implications for research. *Acad Manage Rev.* 1986;11(1):55–70.
14. Pourshaban D, Basurto-Davila R, Shih M. Building and sustaining strong public health agencies: determinants of workforce turnover. *J Public Health Manag Pract.* 2015; 21(suppl 6):S80–S90.
15. Edwards CY, Robinson O. “Better” part-time jobs? A study of part-time working in nursing and the police. *Employee Relat.* 2001;23(5):438–454.
16. Thorsteinson TJ. Job attitudes of part-time vs. full-time workers: a meta-analytic review. *J Occup Organ Psychol.* 2003;76(2):151–177.
17. Brayfield AH, Crockett WH. Employee attitudes and employee performance. *Psychol Bull.* 1955;52(5): 396–424.
18. Judge TA, Thoresen CJ, Bono JE, Patton GK. The job satisfaction–job performance relationship: a qualitative and quantitative review. *Psychol Bull.* 2001;127(3): 376–407.
19. Liss-Levinson R, Bharthapudi K, Leider JP, Sellers K. Loving and leaving public health: predictors of intentions to quit among state health agency workers. *J Public Health Manag Pract.* 2015;21(suppl 6):S91–S101.
20. *Federal Employee Viewpoint Survey Results.* Washington, DC: Office of Personnel Management; 2014.
21. Leider JP, Bharthapudi K, Pineau V, Liu L, Harper E. The methods behind PH WINS. *J Public Health Manag Pract.* 2015;21(suppl 6):S28–S35.
22. Ye J, Leep C, Robin N, Newman S. Perception of workforce skills needed among public health professionals in local health departments: staff versus top executives. *J Public Health Manag Pract.* 2015;21(suppl 6): S151–S158.
23. Harper E, Castrucci BC, Bharthapudi K, Sellers K. Job satisfaction: a critical, understudied facet of workforce development in public health. *J Public Health Manag Pract.* 2015;21(suppl 6):S46–S55.
24. Hellman CM. Job satisfaction and intent to leave. *J Soc Psychol.* 1997;137(6):677–689.
25. Leider JP, Castrucci BC, Plepys CM, Blakely C, Burke E, Sprague JB. Characterizing the growth of the undergraduate public health major: US, 1992–2012. *Public Health Rep.* 2015;130(1):104–113.
26. Gebbie KM, Rosenstock L, Hernandez LM. *Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century.* Washington, DC: National Academies Press; 2002.
27. Coronado F, Koo D, Gebbie K. The public health workforce: moving forward in the 21st century. *Am J Prev Med.* 2014;47(5 suppl 3):S275–S277.
28. Tilson H, Gebbie KM. The public health workforce. *Annu Rev Public Health.* 2004;25:341–356.
29. Hilliard TM, Boulton ML. Public health workforce research in review: a 25-year retrospective. *Am J Prev Med.* 2012;42(5 suppl 1):S17–S28.
30. Beck A, Boulton M. Building an effective workforce: a systematic review of public health workforce literature. *Am J Prev Med.* 2012;42(5 suppl 1):S6–S16.
31. Parlette N. *Longitudinal Study of Graduate Schools of Public Health 1956–1985.* Washington, DC: Association of Schools of Public Health; 1992.
32. Leider JP, Harper E, Bharthapudi K, Castrucci BC. Educational attainment of the public health workforce and its implications for workforce development. *J Public Health Manag Pract.* 2015;21(suppl 6):S56–S68.