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Can Better Leadership Reduce Nursing Home Staff Turnover?

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A B S T R A C T

Objectives: To assess whether a measure of leadership support for worker safety, health, and well-being predicts staff turnover in nursing homes after controlling for other factors.
Design: This paper uses administrative payroll data to measure facility-level turnover and uses a survey measure of nursing home leadership commitment to workers. In addition, we use data from Medicare to measure various nursing home characteristics.
Setting and Participants: Nursing homes with at least 30 beds serving adults in California, Ohio, and Massachusetts were invited to participate in the survey. The analysis sample included 495 nursing homes.
Methods: We used a multivariable ordinary least squares model with turnover rate as the dependent variable. We used an indicator for nursing homes who scored above the median on the measure of leadership that supports worker safety, health, and well-being. Control variables include bed count (deciles), ownership (corporate/noncorporate × for-profit/not-for-profit), percent of residents on Medicaid, state, being in a nonmetropolitan county, and total nurse staffing per patient day in the 2 quarters before the survey.
Results: The unadjusted turnover rate was lower for those nursing homes that scored higher on leadership commitment to worker safety, health, and well-being. After controlling for additional variables, greater leadership commitment was still associated with lower turnover but with some attenuation.
Conclusions and Implications: We find that nursing homes with leadership that communicated and demonstrated commitment to worker safety, health, and well-being had relatively fewer nurses leave during the study period, with turnover rates approximately 10% lower than homes without. These findings suggest that leadership may be a valuable tool for reducing staff turnover.

Staff turnover is problematic for the health care industry, decreasing unevenly across settings and staff types from pandemic highs.[1] Recent research estimates the average annualized nursing staff turnover in U.S. nursing homes to be 128%.[2] Patients may suffer from high nursing staff turnover as it is associated with increased likelihood of pressure ulcers, pain, urinary tract infections, and readmissions.[3]

An important question for regulators and providers is what can be done to reduce the alarmingly high turnover in the industry. One important possibility is that improved leadership practices from

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facilities managers and administrators affect retention and turnover.[4] Using data from the Nursing Home Culture Change 2016–2017 survey, Berridge and colleagues[4] found that an index of leadership and staff empowerment was associated with high nursing assistant retention (above 76% compared with 0%–50%). Another analysis revealed that in nursing homes with lower turnover rates, employees reported better patient safety culture.[5] This article uses a new source of data to create specific turnover rates for different types of nursing staff at the nursing home level.

The Long-Term Care Facility Staffing Payroll-Based Journal (PBJ) system collected by the Centers for Medicare and Medicaid Services (CMS) relies on payroll data to track turnover in nursing homes.[6] This relatively new data source, begun in 2016, helps to illuminate the causes and consequences of turnover in nursing homes. The quality of turnover data from a payroll-based system may be higher and more precise than turnover estimated by leadership.[1,6]

This study examines the relationship between the commitment of a facility's leadership to workers' safety, health, and well-being and the turnover of its nursing staff using a new measure of leadership in the work environment. This measure is distinct from previous measures of leadership in that it focuses solely on worker safety, health, and well-being leadership. We build on a growing literature analyzing the linkages between leadership and staff retention. Notably, although this literature often relies on self-reported turnover, we leverage administrative payroll data to precisely measure facility-level turnover.

Methods

Research Design

This study used cross-sectional data from 4 distinct sources: the employee-shift-level PBJ database collected by CMS, the Enterprise Outcomes Study (a project of the Harvard T.H. Chan School of Public Health Center for Work, Health, and Wellbeing), CMS's Nursing Home Compare, and from Long-Term Care Focus.[7,6] Data from the Enterprise Outcomes Study are survey data collected by the study team, while the other data sources are administrative data collected by CMS. This study was approved by the Harvard T.H. Chan School of Public Health institutional review board (18-1245).

Measures

Using information from October 1, 2018, thru September 30, 2019 (FY2019), employees were considered to have left during FY2019 if they did not show up in the PBJ after October 1, 2019. The turnover rate (the primary outcome variable) is the number of employees who left in FY2019 divided by the average number of unique employees of all quarters in FY2019 for each category of nursing staff: registered nurses (RNs), licensed practical nurses (LPNs), and certified nursing assistants (CNAs). Turnover rates are reported in absolute value, so 1.2 = 120% turnover.

The primary independent variable was the leadership commitment domain of the Workplace Integrated Safety and Health Assessment.[8] This measures the extent to which the organization's leadership articulates worker safety, health, and well-being as a clear priority, driving accountability and providing resources to accomplish the goal of positive working conditions. Respondents rated the following statements on a Likert-type scale.

a. The company's leadership, such as senior leaders and middle managers, communicate their commitment to a work environment that supports employee safety, health, and well-being.
b. The organization allocates enough resources, such as enough workers and money, to implement policies or programs to protect and promote worker safety and health.
c. Worker health and safety are part of the organization's mission, vision, or business objectives.
d. The importance of health and safety is consistently reflected in actions across all levels of the organization, both formally and informally.

In the regression, the sum of equally weighted responses was used to create an index. Facilities were categorized based on whether their score was above or below the median. This variable came from the Enterprise Outcomes Survey.

Subjects

The Enterprise Outcomes Survey was a survey of all CMS-qualified nursing homes serving adults with at least 30 beds in California, Massachusetts, and Ohio.[9] Nursing homes were included in the sample if they met the previous criteria and were listed by CMS as being open in August 2018. Over 2 randomly sampled waves, directors of nursing or their designees were e-mailed a survey invitation and links, followed by 3 e-mail reminders and a paper version. Surveys were collected between the third quarter of 2018 and the second quarter of 2019. Of the 2389 nursing homes invited, a total of 569 responded. These nursing homes were matched to the administrative data sources to create the sample for the analysis of turnover.

In previous work, we did not find any statistically significant indicators of whether a nursing home responded to the Enterprise Outcomes Survey. The logistic regression for response included the wave of the survey, state indicators, number of beds, ownership (not-for-profit vs for-profit), Medicare staffing rating, Medicare quality rating, and Medicare health inspection rating. In addition, the most recent Rural-Urban Commuting area codes were used to classify nursing homes as "rural" if they were not Metropolitan.[10] None of the odds ratios for nursing home characteristics were statistically significant at a family-wide error rate of 5% (the Bonferroni corrected 95% CIs crossed 1), with the exception of the state indicators. Full details on the survey and the predictors of response are available in the Supplementary Material A.[9]

Statistical Methods

A multivariable ordinary least squares (OLS) model was used to predict turnover rates after removing outliers with 95% CIs. Control variables include bed count (deciles), ownership (corporate/noncorporate × for-profit/not-for-profit), percent of residents on Medicaid, state, being in a nonmetropolitan county, and total nurse staffing per patient day in the 2 quarters before the survey.

Results

There were 569 responses to the survey across the 3 states (see Supplementary Results part B). Forty-six nursing homes were excluded from the analysis because they were missing 2018Q1/2018Q2 staffing measures. An additional 4 were excluded because they did not have sufficient data in the PBJ to calculate turnover rates. Another 19 were missing at least 1 question of the Workplace Integrated Safety and Health Assessment (WISH) Leadership Domain and were omitted. Finally, 9 nursing homes were removed because their payroll data indicated they were outliers. As a result, there were 495 nursing homes in the analysis sample. Excluding nursing homes that were outliers, there was no statistically significant difference in the average turnover rates for nursing homes included vs excluded in the final sample. The distributions of the turnover variable for each nursing type and the WISH Leadership Score are given in Figure 1.

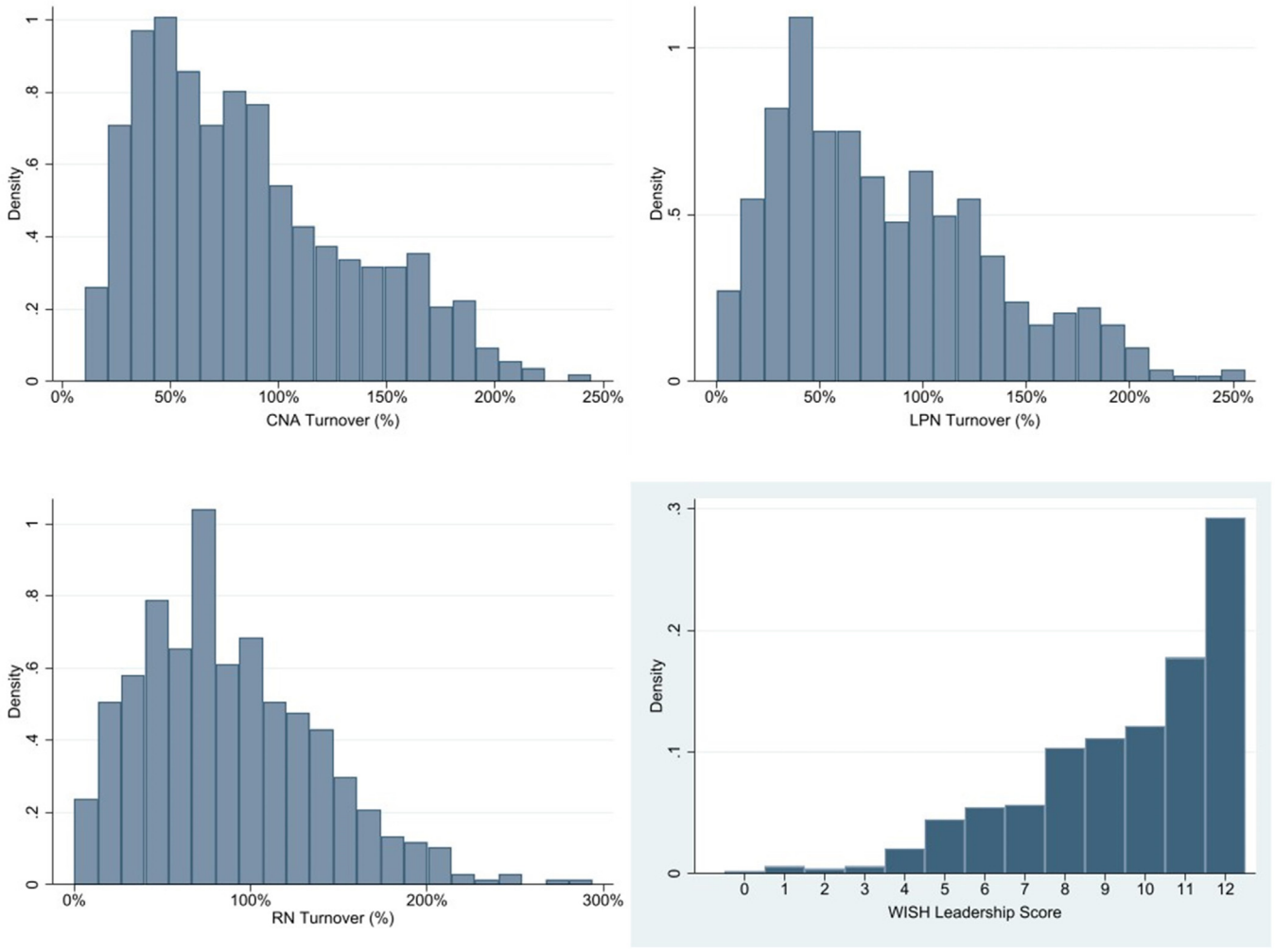

Fig. 1. Distributions of nursing staff turnover and leadership commitment to workers safety, health, and well-being.

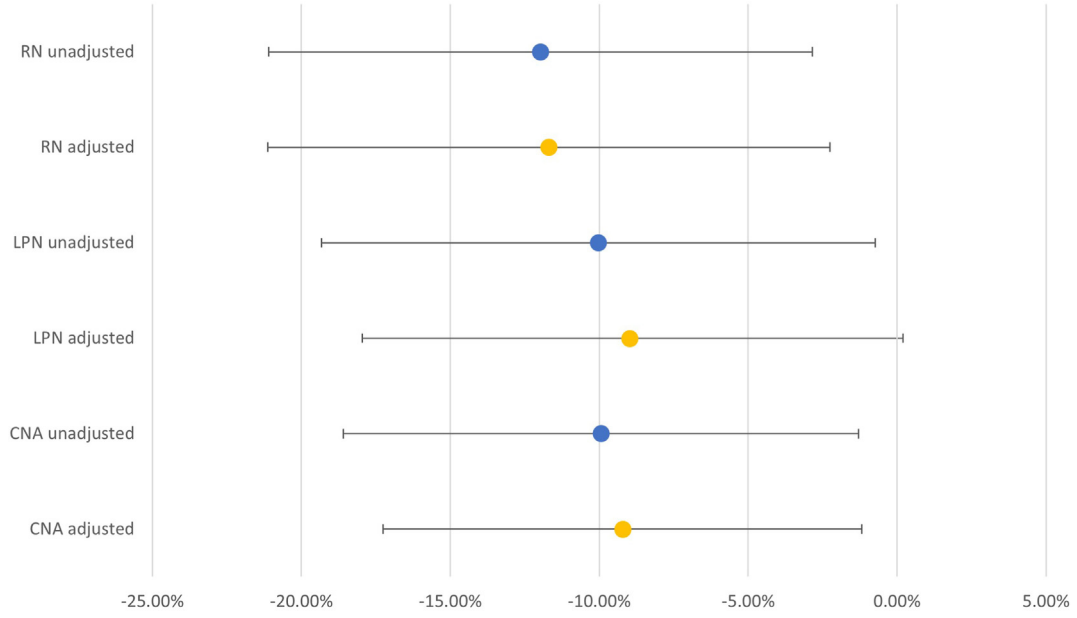

Fig. 2. Difference in turnover rates: above median leadership compared with below median leadership.

The unadjusted turnover rate was lower for those nursing homes that scored higher on leadership commitment to worker safety, health, and well-being (Figure 2). Coefficients from the OLS regression were transformed into percent changes by multiplying by 100. The difference was greater for RNs, but still important for LPNs and CNAs. After controlling for additional variables, greater leadership commitment was still associated with lower turnover but with slight attenuation (Figure 2).

Discussion

Nursing homes with leadership that communicated and demonstrated commitment to worker safety, health, and well-being had relatively fewer nurses leave during the study period, with turnover rates approximately 10% lower than homes without. The result that better leadership was associated with lower turnover fits with the overall idea that workplaces using "best practices" for worker safety, health, and well-being may have better organizational outcomes. This finding mirrors the results from Berridge and colleagues[4] but includes additional types of nursing staff and gives more precise differences in turnover rates.

The leadership domain of the Workplace Integrated Safety and Health Assessment is defined as "[l]eadership makes worker safety, health, and well-being a clear priority for the entire organization. They drive accountability and provide the necessary resources and environment to create positive working conditions." It measures leadership best practices for an integrated approach to protect and promote worker safety, health, and well-being.[8] Leadership has been shown to affect many work-related safety, health, and well-being outcomes.[11,12] Specifically, it has been associated with job-related well-being, safety climate, and work-related injuries.[13-16] For example, there is a complex relationship between work-related injuries and turnover, but some authors have found that injuries increase the risk of termination (voluntary or involuntary) among health care workers.[17,18] Leadership may improve working conditions by implementing policies and programs that promote and protect worker safety and health (item b). In addition, leadership as measured here (items a, c, and d) may influence job satisfaction and engagement—both of which may be related to turnover. Future research, particularly qualitative research, will be essential to illuminating the exact mechanisms by which leadership may influence turnover.

Fortunately, there is existing work that highlights the malleability of leadership, including validated curriculum to protect and promote worker health.[19–22] The STAR (Support.Transform.Achieve.Results.) process was designed to create a work culture that supports and promotes workers' health and well-being.[23] Previous work has shown that this intervention reduced work-family conflict. There are several other interventions to improve leadership as well, some with a focus on safety and health promoting leadership.[20-23]

As with all research, ours is subject to several limitations. Our survey covered only 3 states, California, Massachusetts, and Ohio, so we cannot extend the results to other states that have different competitive and policy environments. The survey also only covered nursing homes with at least 30 beds, so we are unable to make any assessments about smaller nursing homes, which may have very different working environments. Although we did not find any differences in observable characteristics between the respondents and nonrespondents, we cannot rule out differences based on unobservable attributes. We controlled for county-level nursing home turnover but were not able to control for turnover in the broader labor market for nurses that would include other types of health care facilities, such as hospitals and offices. In addition, we could not control directly for resources outside of those dedicated to protect and promote worker health that were included in the measure of leadership.

Conclusions and Implications

These findings suggest that leadership may be a valuable tool for reducing staff turnover. Therefore, regulators and providers concerned about high staff turnover in the industry might look to improving the commitment of nursing home leadership to their staff as a means by which to achieve improvement. Further research into the causes of turnover should include measures of the workplace health and safety environment in addition to the labor market. In addition, this dimension of leadership may be a useful tool to reduce turnover in other areas of health care.

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Supplementary Material

The relationship between leadership supportive of worker safety, health, and well-being and turnover may be dose-response. The analysis presented in the main paper was re-run with the following categories: 0–5, 6–7, 8–9, 10–11, and 12, based on visual and percentile inspection of the raw data distribution (10th percentile = 6, 25th percentile = 8, 50th percentile = 10, and 75th percentile = 12). Using these categories instead of the median split resulted in the following coefficients: RN turnover shows a dose-response relationship. LPN turnover and CNA turnover show more abrupt changes in turnover at the 75th percentile. We caution that these more granular trends result in less precise estimates.

Results Using Percentiles of Leadership (New)			
	RN Turnover	LPN Turnover	CNA Turnover
<10th percentile	−0.06 [−0.27, 0.14]	−0.03 [−0.23, 0.17]	−0.09 [−0.27, 0.09]
10th–24th percentile	−0.11 [−0.29, 0.06]	−0.02 [−0.20, 0.16]	−0.14 [−0.30, 0.02]
25th–49th percentile	Reference	Reference	Reference
50th–74th percentile	−0.15 [−0.29, −0.02]	−0.06 [−0.21, 0.08]	−0.09 [−0.23, 0.04]
≥75th percentile	−0.17 [−0.31, −0.03]	−0.13 [−0.28, 0.01]	−0.21 [−0.33, −0.08]
Results Using Median Split (Previous)			
	RN Turnover	LPN Turnover	CNA Turnover
Below median	Reference	Reference	Reference
Above median	−0.12 [−0.21, −0.02]	−0.09 [−0.18, 0.00]	−0.09 [−0.17, −0.02]